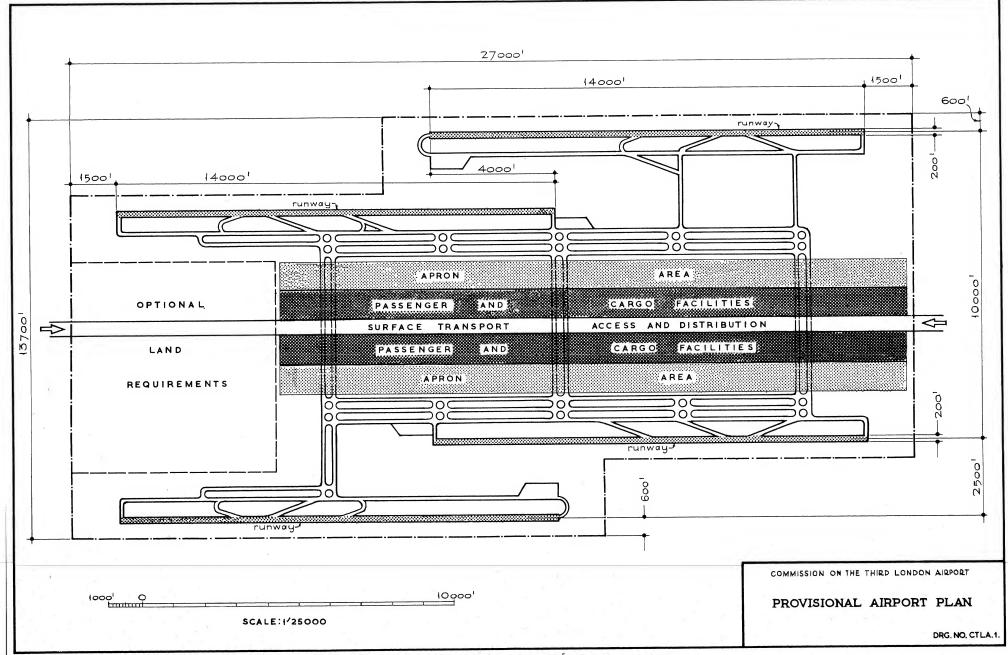
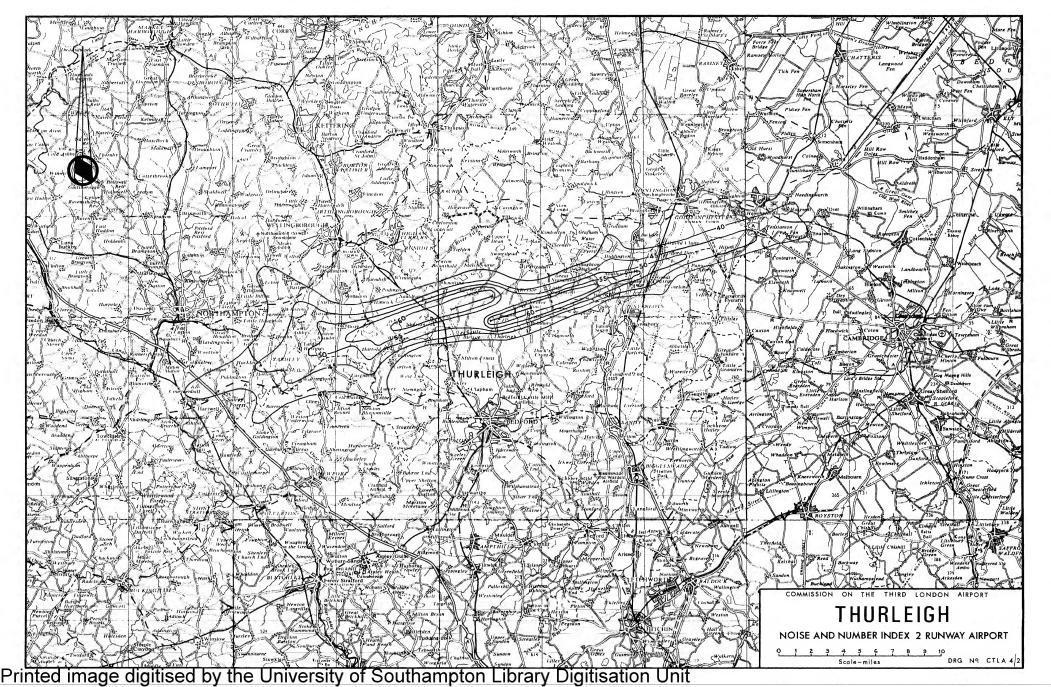
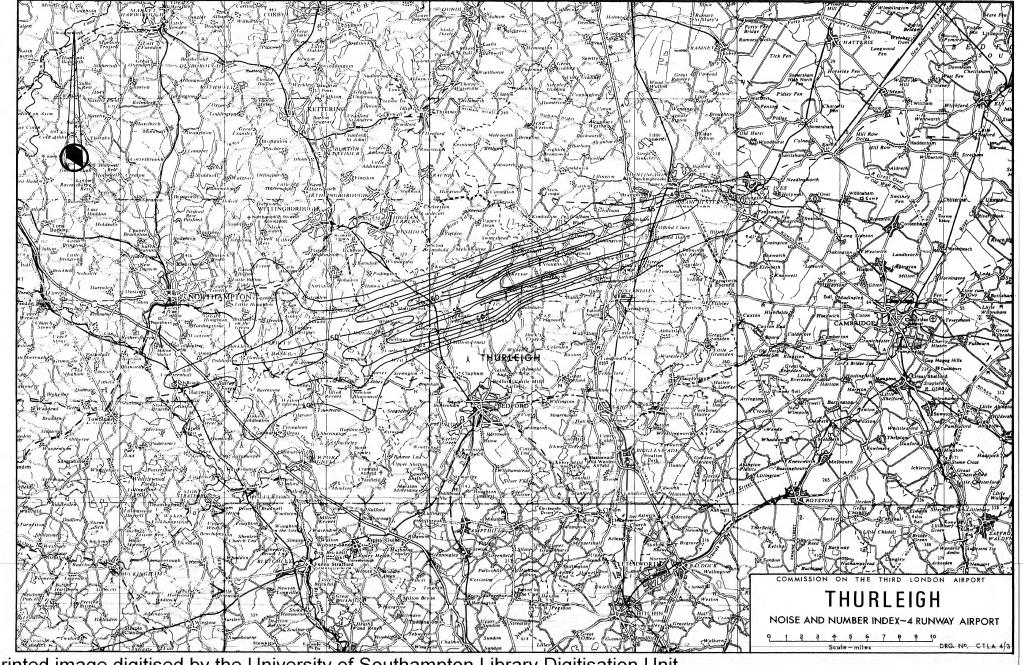


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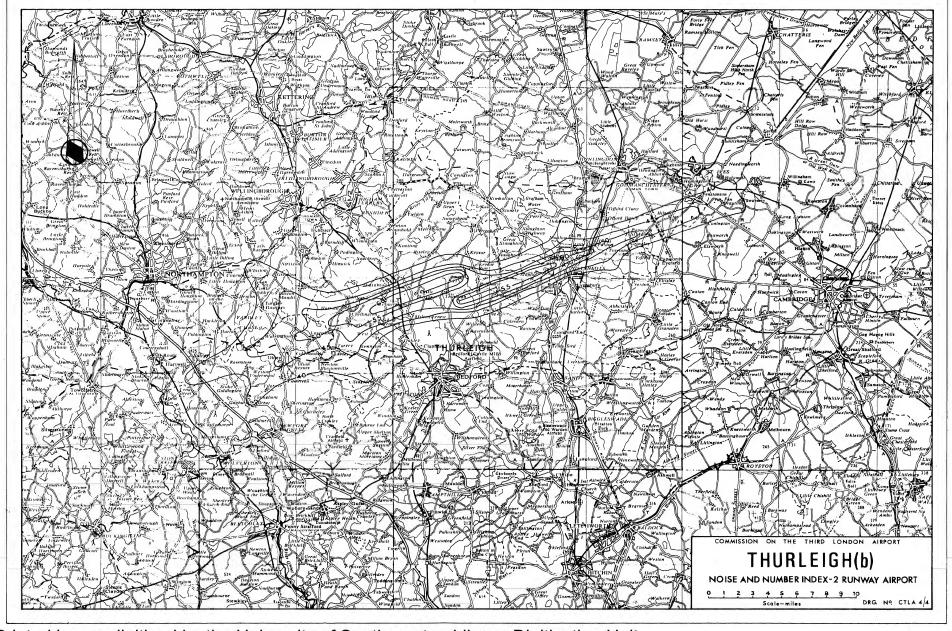


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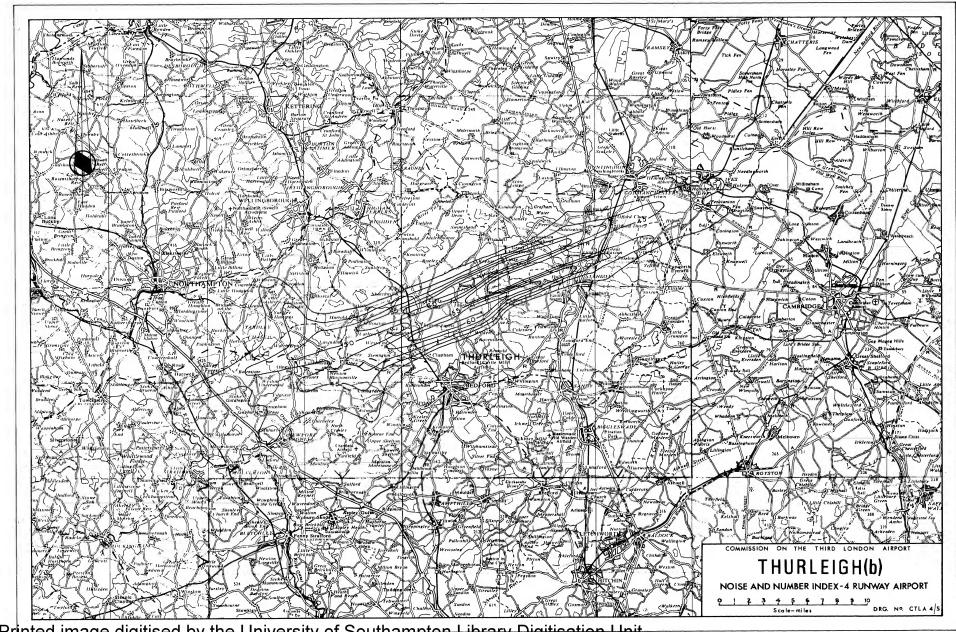




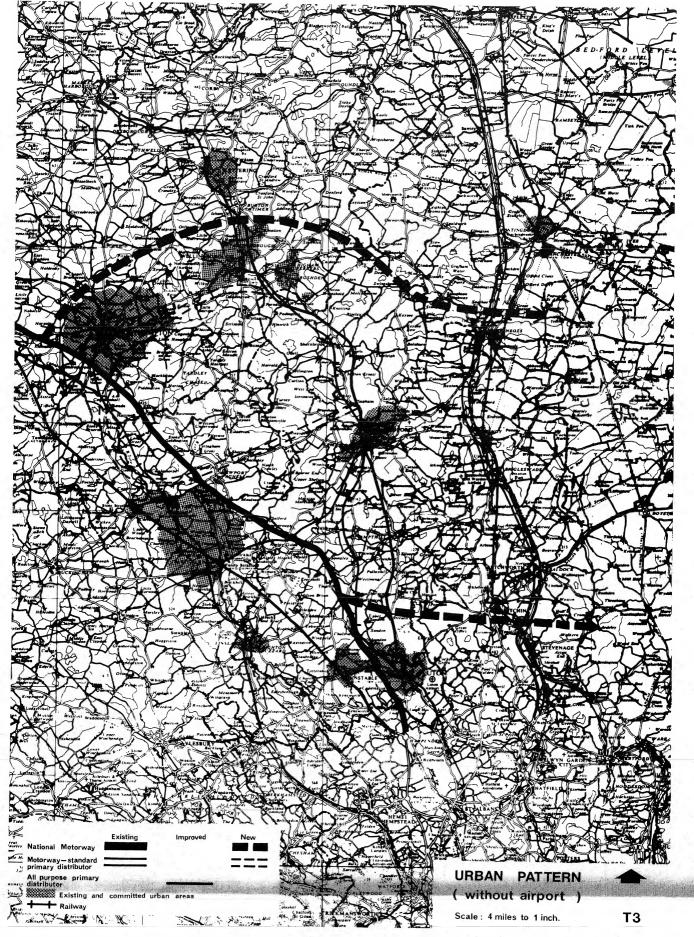
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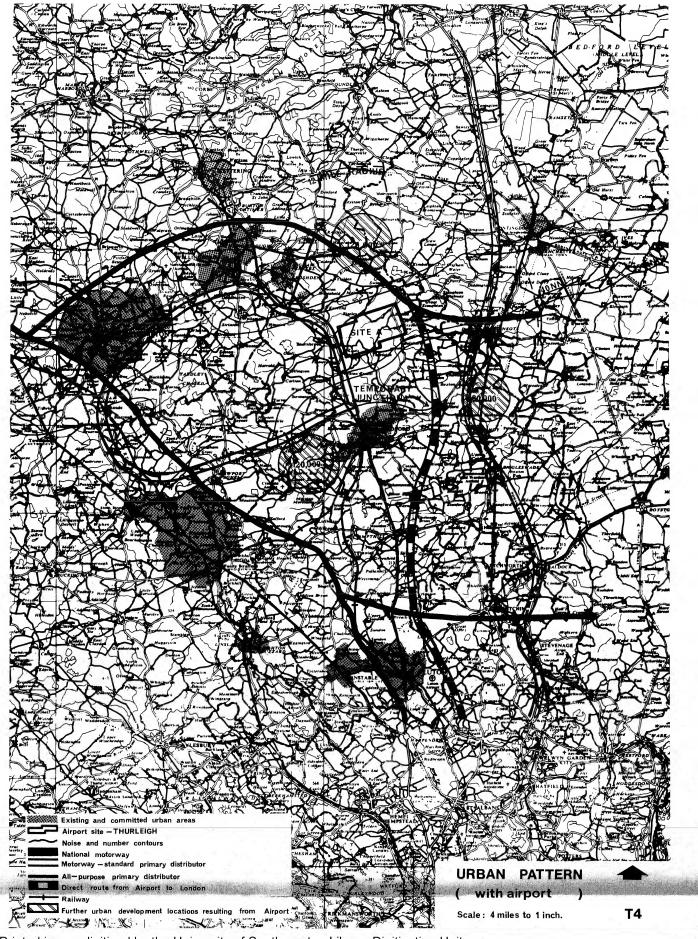
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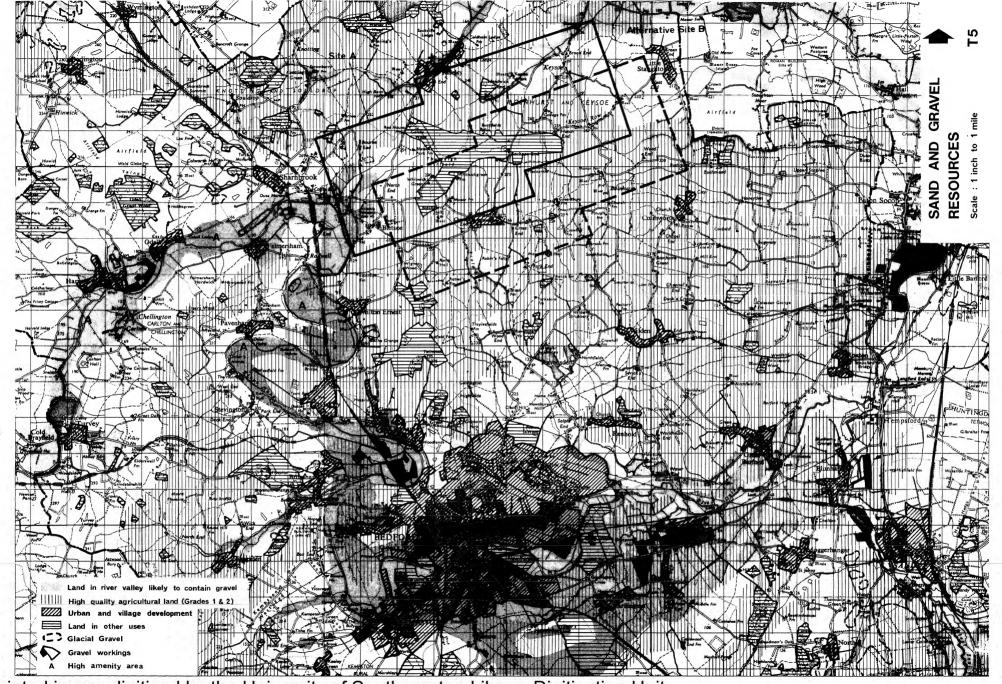
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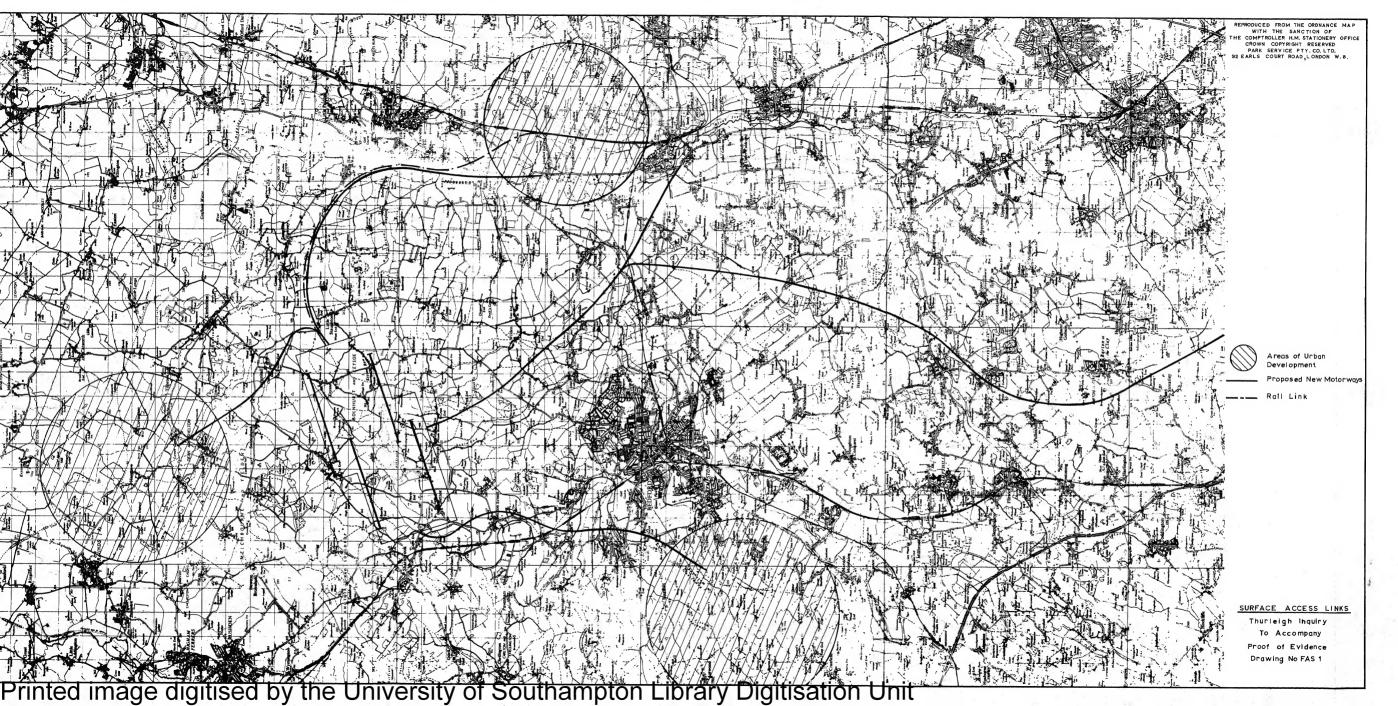
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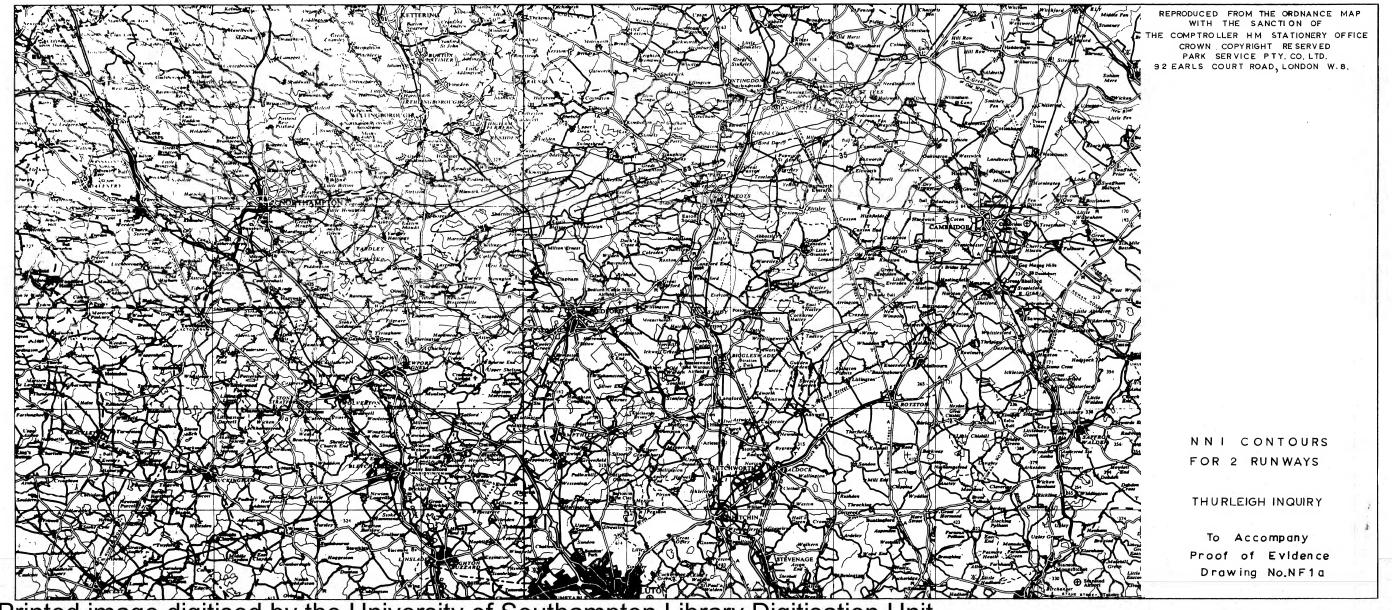
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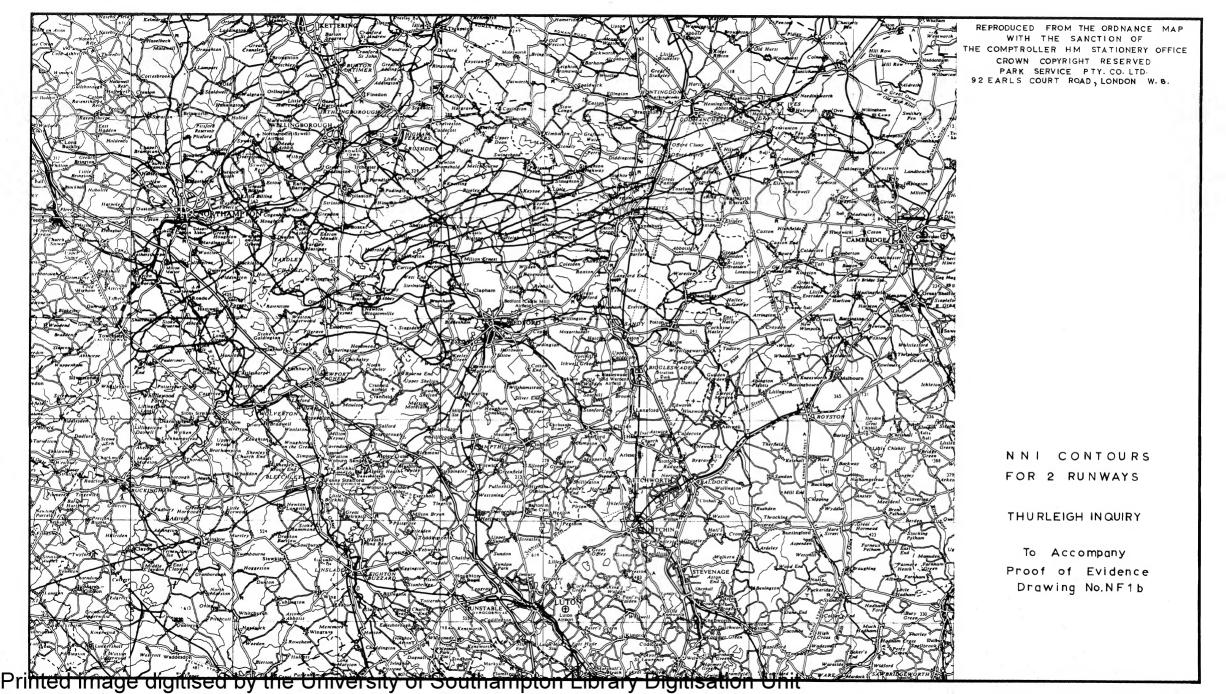
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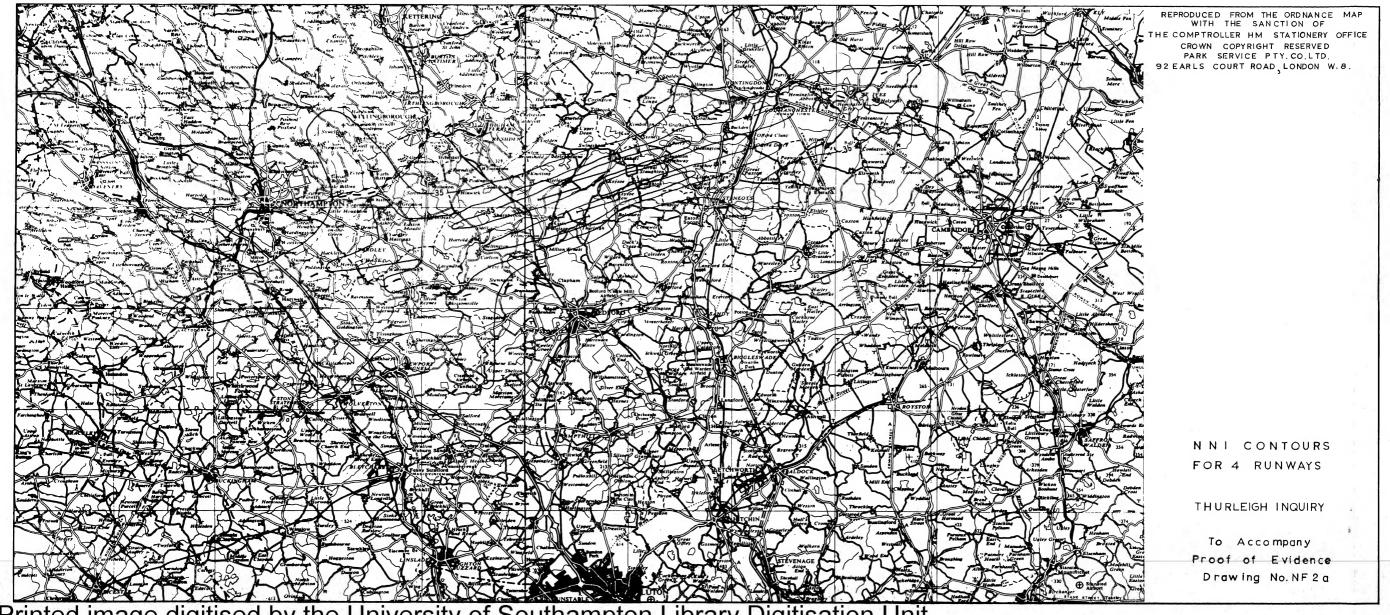




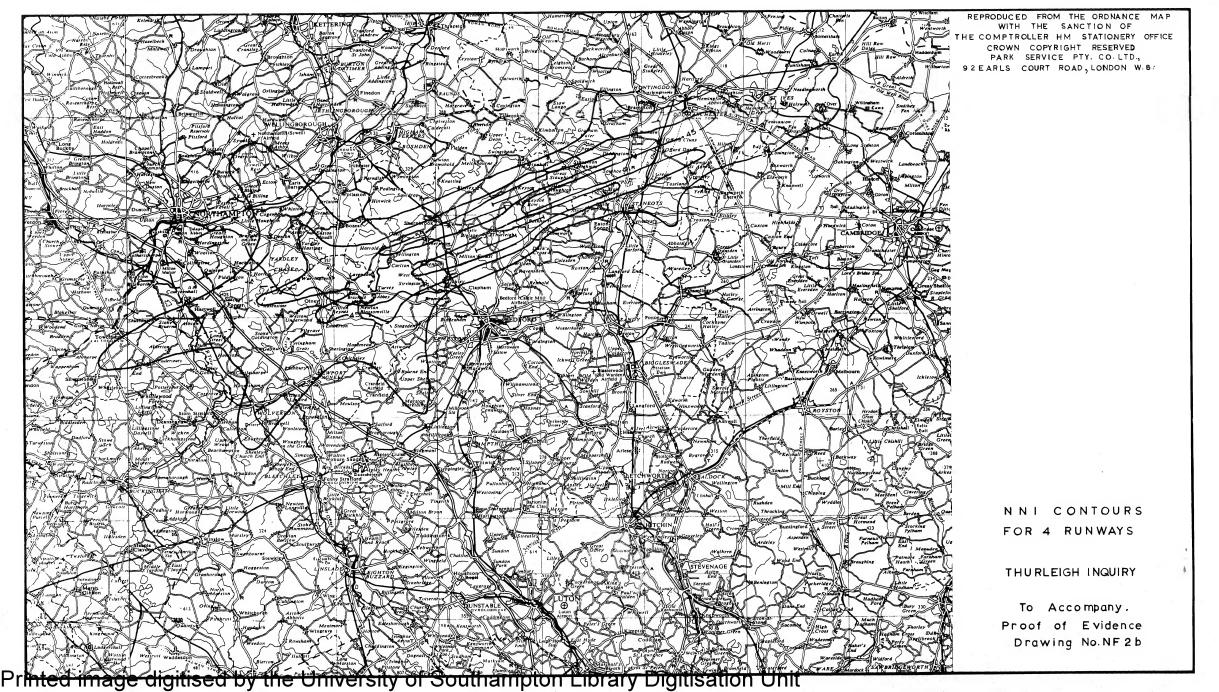


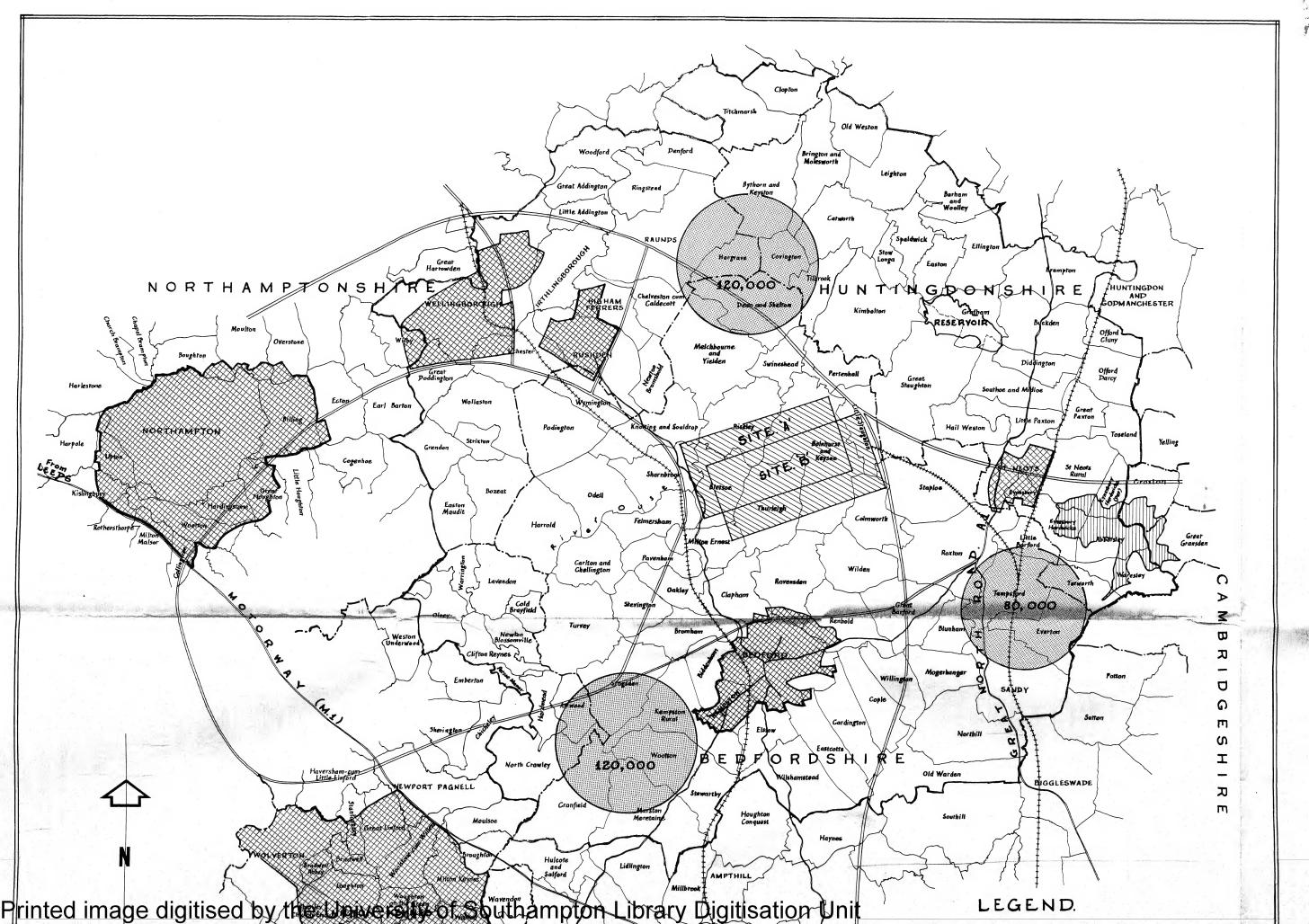
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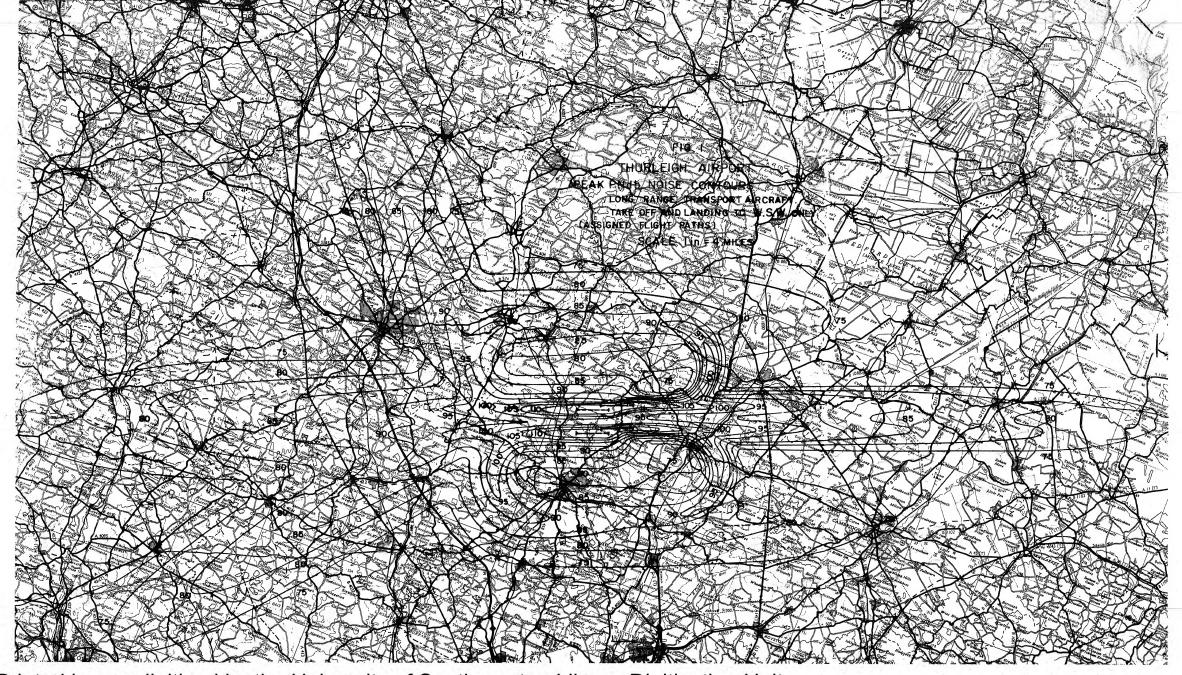




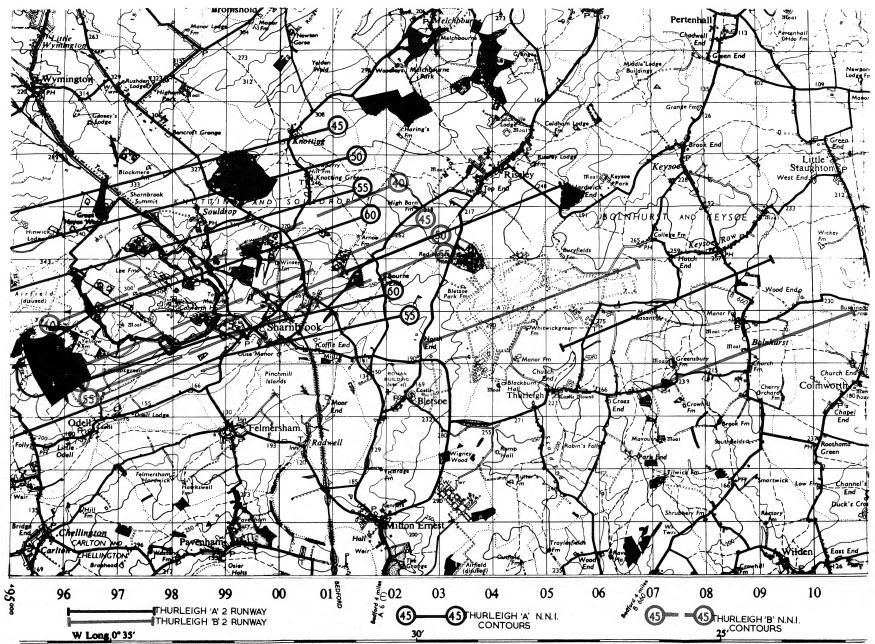
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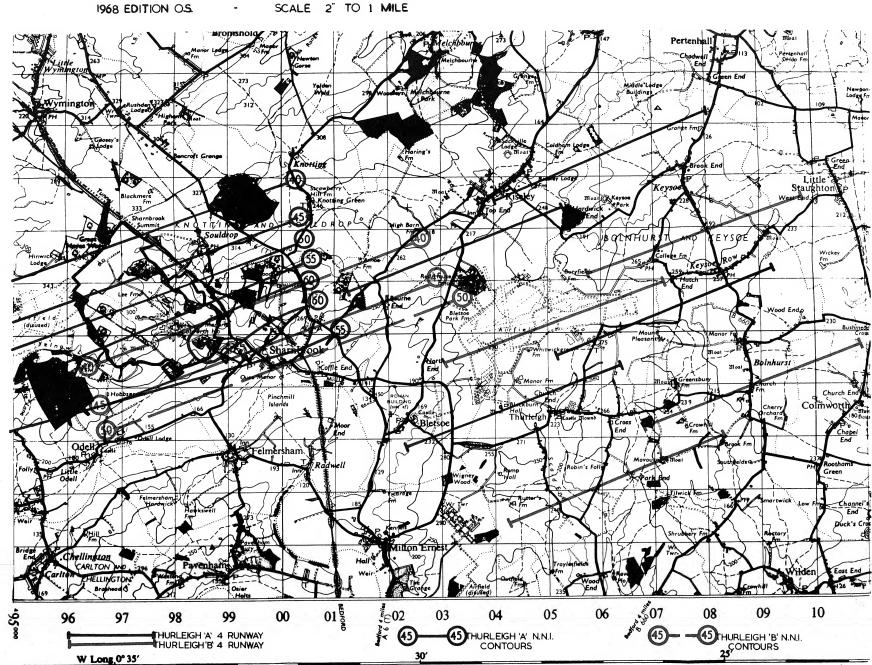




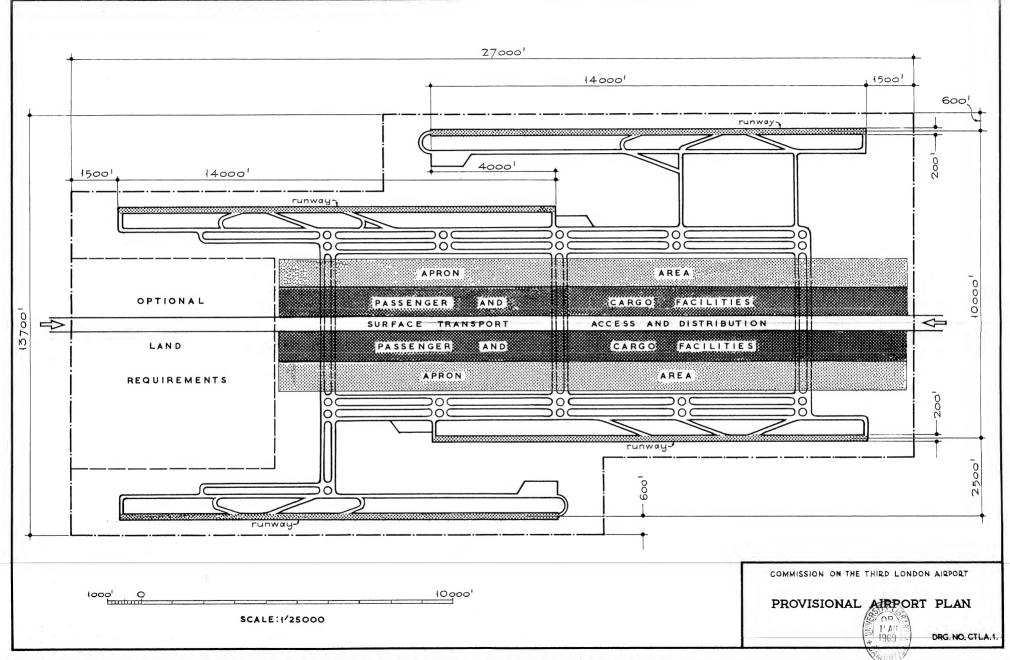
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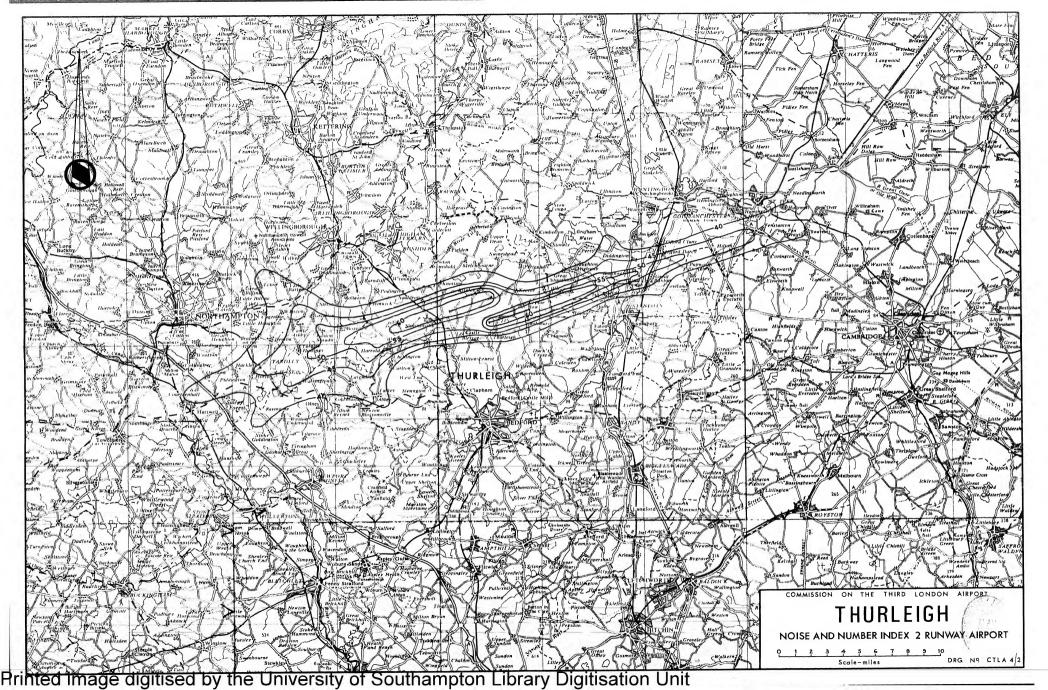
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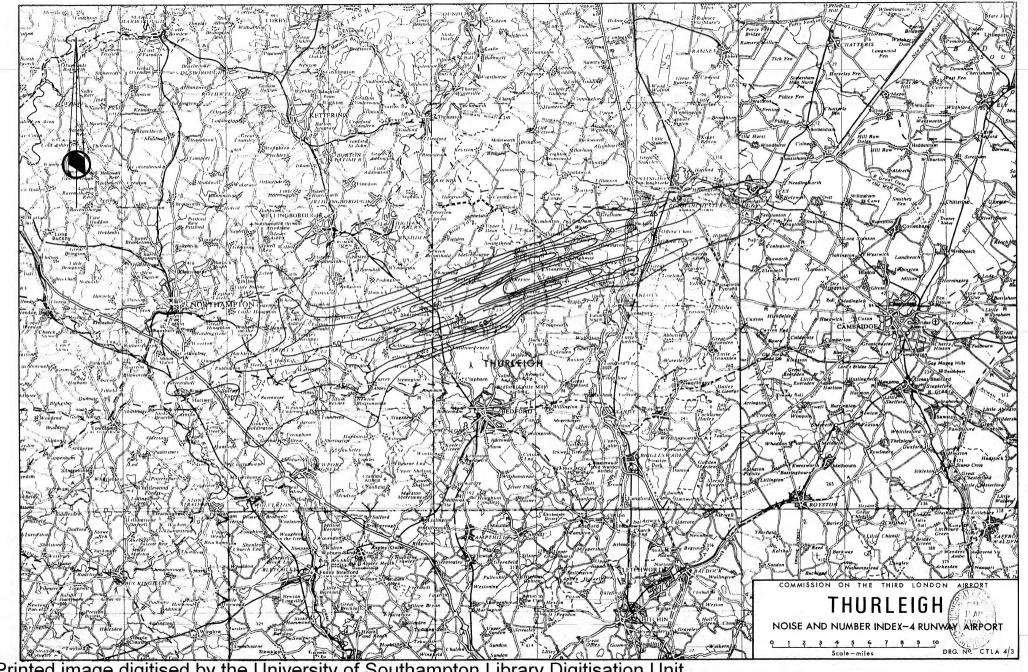


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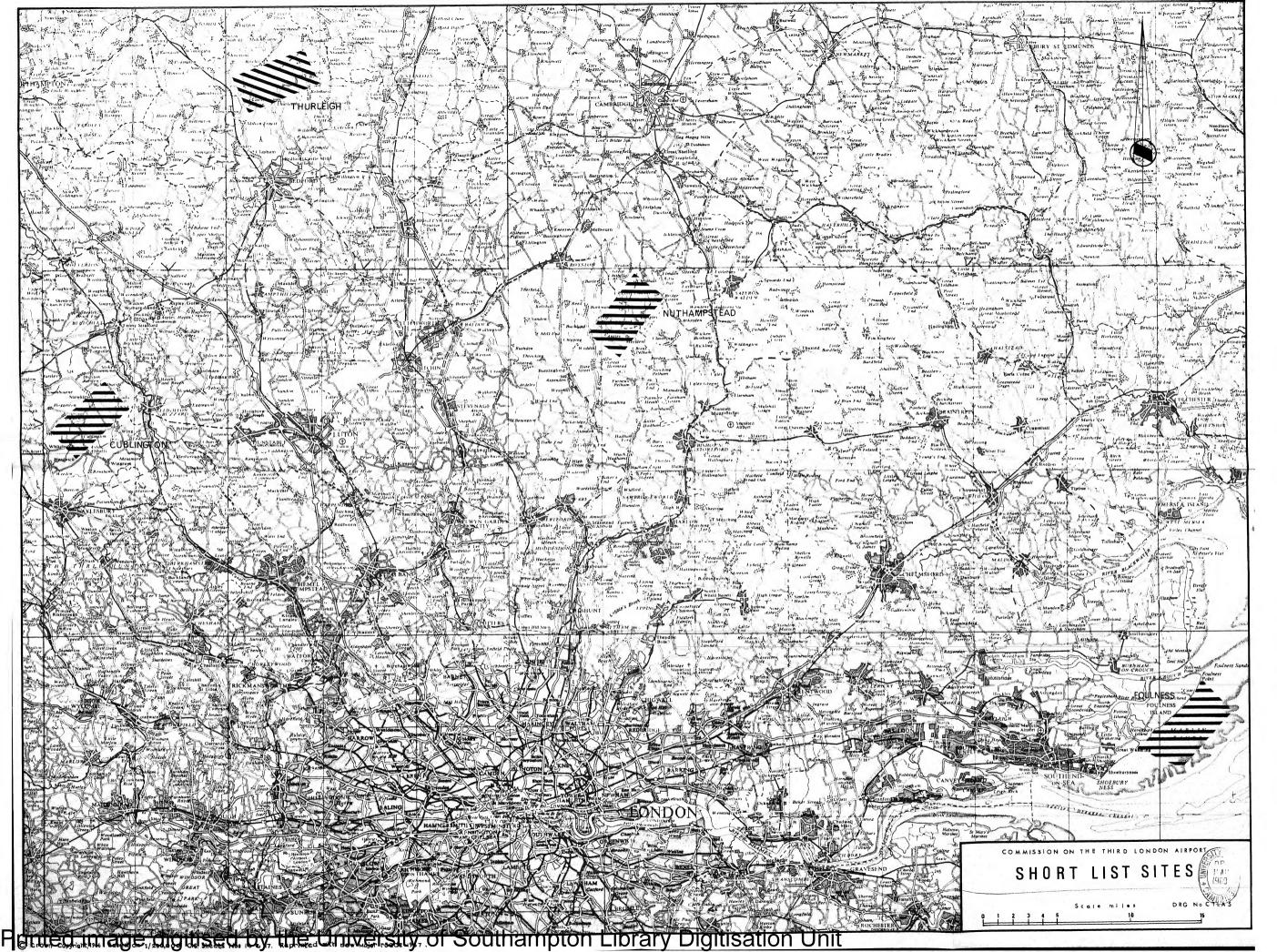


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## Site Information for Stage II Local Hearings

## 4. Thurleigh (Bedford)

#### 1. Introduction

The information set out below is intended to give a broad indication of what would be involved if the third London airport were to be located at Thurleigh. At this early stage of the Commission's work it is not possible to give final detailed plans for an airport at this site or for the surface access arrangements which would be required. The material under the various headings should, however, enable local implications of an airport at Thurleigh to be assessed and should provide a suitable basis for objections, comments and representations at the Stage II local hearing.\*

- 2. As the Commission's work progresses and in the light of the evidence of the Stage II hearings, it will be possible to prepare more detailed plans. These will be available for the Stage V hearings.
- 3. The base maps used to illustrate this material are the latest published by the Ordnance Survey. They do not show the most recent development.

### 2. Airport Layout

- 4. The Commission recognises that there is no single airport layout which is the best possible for all the sites. Each site has to be carefully studied to establish factors, such as terrain and local geological conditions, so that the best layout at that particular site can be obtained. Detailed studies have not yet been carried out at Thurleigh, or any of the other short listed sites. Nevertheless, the Commission recognises the need for providing the public with some indication of the likely size and shape of a four-runway airport.
- 5. The layout shown at plan CTLA/1 illustrates an arrangement which would be acceptable both to the National Air Traffic Control Services and to the British Airports Authority. An airport of this design could be constructed at Thurleigh. It is emphasised that it is not the only possible configuration, but the basic runway separation distances which control the amount of land required are unlikely to be much less than is shown. The total land-take of an airport at Thurleigh with this layout would be approximately 7,500 acres (including the areas shown as "optional") but the possibility of a larger land-take being required cannot be excluded.

## 3. Runway Alignment

6. The runway alignment is 72 degrees east of north (grid). This is shown on the NNI (Noise and Number Index) contour plans CTLA/4/2 and CTLA/4/3. The alignment differs slightly from that indicated by the shaded rectangle on plan CTLA/5 (Short List Sites). This new alignment provides a better balance of the following important factors: noise disturbance, existing facilities and amenities, air traffic to other civil airports, air traffic patterns, military aviation, meteorological conditions and terrain. The Commission recognises that further changes to this alignment may subsequently be justified.

<sup>\*</sup>See Appendix A for procedure and programme.

#### 4. Airport Site

- 7. The area proposed includes the airfield at Thurleigh. The site is bounded by the River Ouse to the south west and the valleys of the tributaries of the River Kym to the north east.
- 8. Part of the site is now in use as an airfield. The additional land required is used, primarily, for agriculture.
- 9. Geologically the area is a boulder clay of glacial origin presenting no abnormal construction problems.

#### 5. Noise and Disturbance

- 10. It is estimated that about 2,000 people currently reside in the area likely to be covered by the site.
- 11. Estimates have been made of the probable NNI\* contours for the airport at the full capacity of two runways and again at the full capacity of four runways.
- 12. Contours down to the 40 NNI level are shown on plans CTLA/4/2 and CTLA/4/3. Attention is drawn to the fact that these contours are of necessity approximate, and that they can give only a general indication of the area likely to be affected. It is especially difficult to estimate the number of aircraft likely to be using particular flight paths in the four-runway case (some thirty years in the future) and the best way in which these flight paths can be routed to minimise the impact of noise on urban areas.
- 13. The reliability of the Noise and Number Index has been questioned. This is a matter which can be further investigated in due course. Separate night time NNI contours have not been prepared but, as the NNI is related to the number of aircraft movements and these are likely to be less at night than by day, it is a reasonable assumption at this stage that the night NNI contours will be less extensive than the day contours depicted. The contours relate to an average summer day—normally the busiest time of the year—with no special noise abatement procedures. It has been assumed in the NNI contours that noise certification regulations will be introduced and will lead to a reduction in the noise effect of aircraft by 10 NNI over the next 20 years, but that half this reduction will be offset by growth in aircraft weight.
- 14. The present population (based on the 1966 Census) affected by the different NNI contours are estimated to be:

Noise level					NNI	2-runway	4-runway		
Intrusive					40-45	11,200	24,800		
Intrusive/ar	nnoying				45-50	5,200	6,400		
Annoving					50 +	4,100	6.200		

The Report of the Committee on the Problem of Noise reached the tentative conclusion that the critical range of disturbance was 50-60 NNI by day and 30-45 NNI by night.

<sup>\*</sup>See Noise: Final Report of the Committee on the Problem of Noise (Cmnd. 2056; HMSO; 19s. 6d.)

15. The Commission is not publishing at this stage maps showing flight paths and stacking areas. Flight path maps will not give information about the levels of disturbance caused by aircraft in the vicinity of the airport. Such information is given by the NNI contour maps. It is not possible at this stage to indicate precisely where stacking areas might be located. However, they do not extend below 5,000 ft and the disturbance caused by aircraft held in stacks is most unlikely to reach the 40 NNI level.

## 6. Airport Employment

- 16. The introduction of a large international airport into an area is bound to create an inward movement of population. There will be those directly engaged on the airport ("primary employment"). There will be those engaged in manufacturing industry and commercial projects attached specifically by the location of the airport ("secondary employment"). There will be those engaged in providing for the needs of the primary and secondary workers and their dependents ("service employment").
- 17. At this stage, the Commission's best estimate of the primary employment which the airport will generate at the full capacity of 2 runways is 45,000 and at the full capacity of 4 runways is 65,000. These figures depend on many factors, including the extent to which airlines will set up engineering facilities at the new airport. These levels of primary employment are unlikely to be reached before the mid-1980s and mid-1990s respectively. The accuracy of this forecast must depend on the date of inauguration of the airport and the subsequent build-up of traffic. The estimates are based on an analysis of employment and air traffic at Heathrow.
- 18. The Commission expects to receive valuable evidence on the issue of resulting urbanisation at the local hearing.

#### 7. Surface Access

- 19. The total annual number of passengers using the airport when 2 runways are running at full capacity is likely to be about 45 million. When 4 runways are running at full capacity it could be over 100 million. The forecasts are tentative and are put forward to give some indication of the scale of the surface access problem.
- 20. The Ministry of Transport and British Rail are not yet in a position to provide definite plans for this level of traffic but it is thought desirable to provide some indication of the possibilities for use at the local hearing. It is envisaged that new roads connecting the proposed site to M1 and A1 in an east-west direction would be required initially. Further road capacity in the M1/A1 corridor towards the Midlands and London is likely to be required later. Rail facilities to a London terminal combining existing lines and new links will be needed from an early date.

#### APPENDIX A

## Arrangements for Stage II Hearing on Thurleigh (Bedford)

#### Scope of the Stage II Hearings

The main purpose of the Stage II hearings is to provide an opportunity for the Commission to be informed as early as possible of all the local implications which it should take into account in its further work on the short list sites. At the hearings the Commission will not be advancing proposals for an airport at the particular site in question but, on the assumption that an airport might be located there, will be asking for objections, comments and representations on the local consequences. The Stage II hearings are not intended to afford an opportunity for making comparisons between the site in question and other sites. Objections, comments and representations must, therefore, be confined to the site proposal in question. The opportunity for comparisons between the short listed sites will arise at the public hearings in Stage V.

2. The Stage II hearings are not ordinary planning inquiries. There will be nobody in the position of applicant for planning consent. Mr. A. J. Hunt, who is a Principal Planning Inspector and a Member of the Commission, will preside. He will already be familiar with the main issues involved and will not be required to decide between any conflicting views put forward. It will be for the Commission as a whole to evaluate the evidence given after the Inspector has reported to it.

#### Procedure of the Stage II Hearings

- 3. The site information published by the Commission should be sufficient to enable those concerned to appreciate the local implications of what is proposed.
- 4. Interested parties must apply to the Commission in writing for leave to be heard or represented at the Stage II local hearings. All applications must be accompanied by a brief statement of the nature of the evidence which it is desired to give. These applications will so far as possible be dealt with by post but if the Commission requires any applicant to present his application orally he will be asked to attend a special meeting for the purpose. Those given leave to be heard or represented will be invited to attend a private meeting to discuss what will be the main issues to be covered at the Stage II local hearings, and how the proceedings should best be conducted.
- 5. The Commission intend to ensure that the best use is made of the time available for the local hearings. Those given leave to appear or be represented must produce their statements, proofs and all other relevant documents well in advance of the hearing so that they can be made available to other interested parties before the hearing begins. This will largely avoid the need for examination in chief. The Commission asks that representative organisations or groups will, so far as possible, put forward a common view so that repetition of similar views and unnecessary cross-examination can be avoided.
- 6. In general the Inspector will have complete discretion and control over the proceedings. He will be entitled to withhold permission to call any witness whose evidence appears likely to be irrelevant or repetitive. There will be no appearance at the hearings on behalf of the Commission but any party given leave to appear or be represented may at the Inspector's discretion be allowed to cross-examine any witness called to the extent that such cross-examination is relevant to the issues before him.
- 7. The Inspector will before the hearing circulate to all concerned a programme of appearances and so far as possible agree this with them.
- The hearing will be in public. A complete shorthand note will be taken. Copies of the transcript will be available for purchase from the shorthand writers, Messrs. Cherer & Co., 34, Essex Street, Strand, London, W.C.2.

9. The Inspector will also have regard to any revelant written objections, comments and representations on the local consequences submitted by those not seeking leave to appear or be represented at the hearing. Such written submissions should reach the Secretary not later than Friday, 22nd August, 1969.

#### Time Table for the Stage II Hearing on Thurleigh (Bedford)

10. The following time table shows the proposed timing of the various phases of the procedure for the local hearing on Thurleigh (Bedford).

(a) Commission material published	28 May
(b) Applications for leave to appear or be represented by	13 June
(c) Date of hearing of applications (unlikely to be required)	4 July
(d) Meeting to discuss procedure	7 July
(e) Statements, proofs and other documents (including	
written submissions) to be received not later than	22 Aug.
(f) Start of hearing	8 Sept.

#### Applications

11. The Commission is now ready to receive applications for leave to appear or be represented at the hearing on Thurleigh (Bedford). These should reach the Secretary at Templar House, 81-87, High Holborn, London W.C.1. not later than Friday, 13th June 1969. The hearing will start at 10 a.m. on Monday, 8th September 1969 at the Corn Exchange, Bedford.

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# Site Information for Stage II Local Hearings

4. Thurleigh (Bedford)



LONDON

HER MAJESTY'S STATIONERY OFFICE

1969

## Commission on the Third London Airport

Members of the Commission

The Hon. Mr. Justice Roskill (C

(Chairman)

Professor Colin Buchanan

Professor of Transport

Imperial College of Science and

Technology

Mr. A. Goldstein

Partner in R. Travers Morgan and Partners, Consulting Engineers

Mr. A. J. Hunt

Principal Planning Inspector Ministry of Housing and Local

Government

Professor David Keith-Lucas

Professor of Aircraft Design, the College of Aeronautics, Cranfield President of the Royal Aeronautical

Society

Mr. Arthur Knight

Finance Director, Courtaulds Ltd.

Professor A. A. Walters

Cassel Professor of Economics in the University of London

University of London

Mr. J. Caines

(Secretary)

Mr. F. P. Thompson

(Director of Research)

The Commission on the Third London Airport Templar House 81-87 High Holborn London WCl

Tel: 01-242 0161

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Maps (in pocket at end)

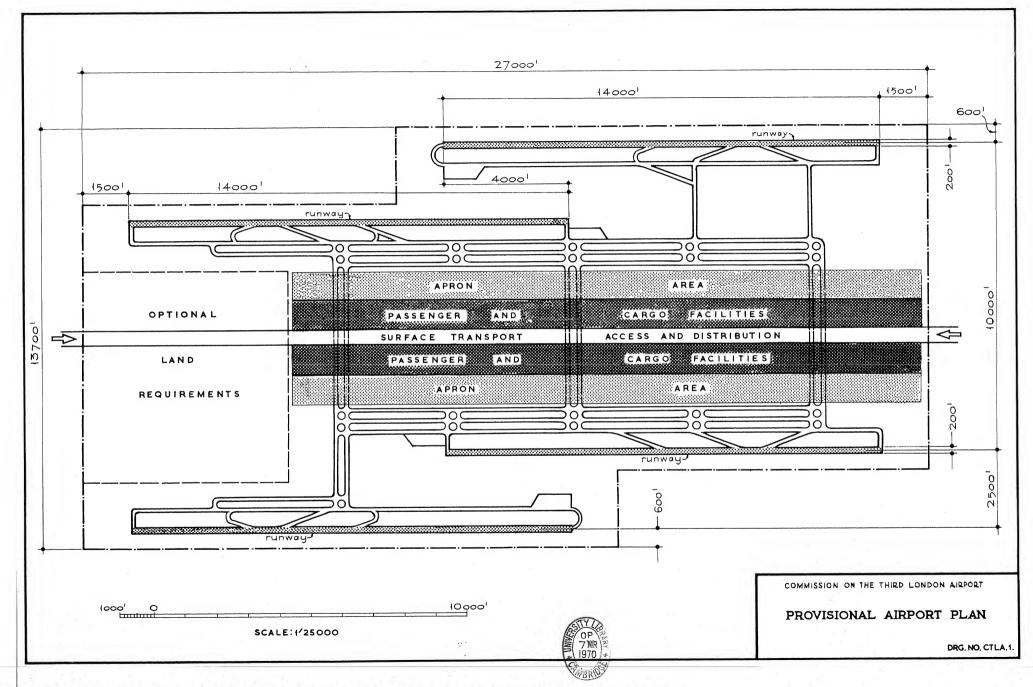
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Short List Sites (CTLA/5)

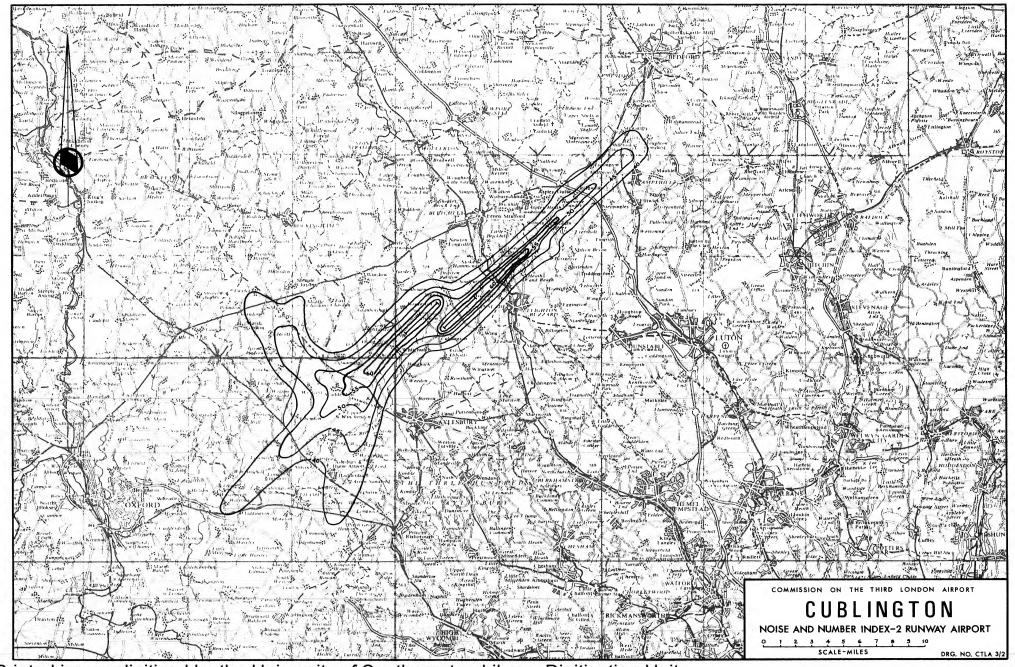
THURLEIGH (BEDFORD)

Provisional Airport Plan (CTLA/1)

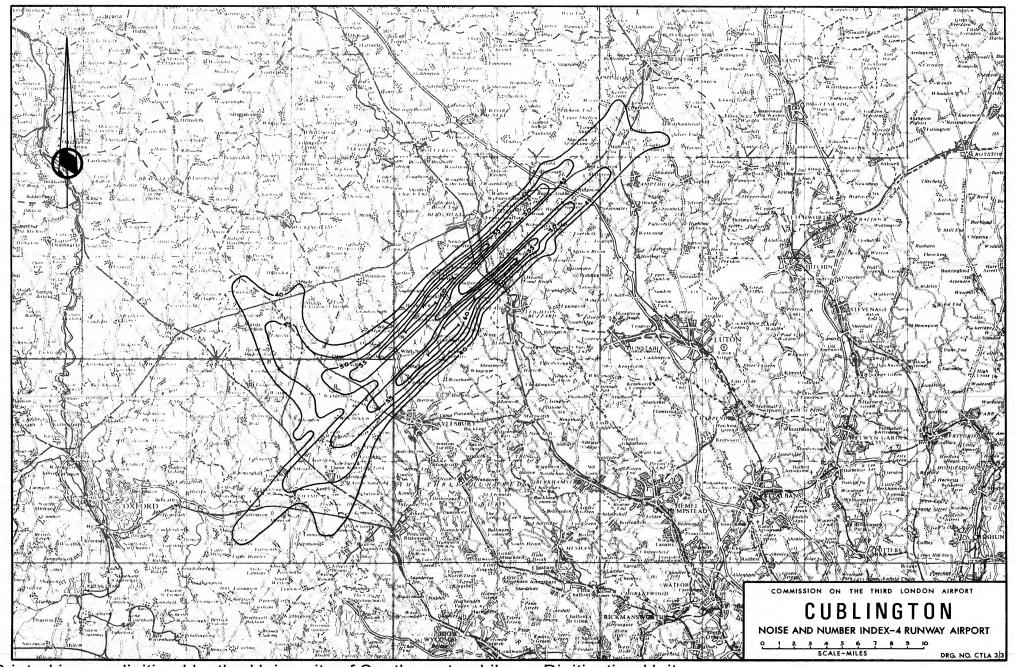
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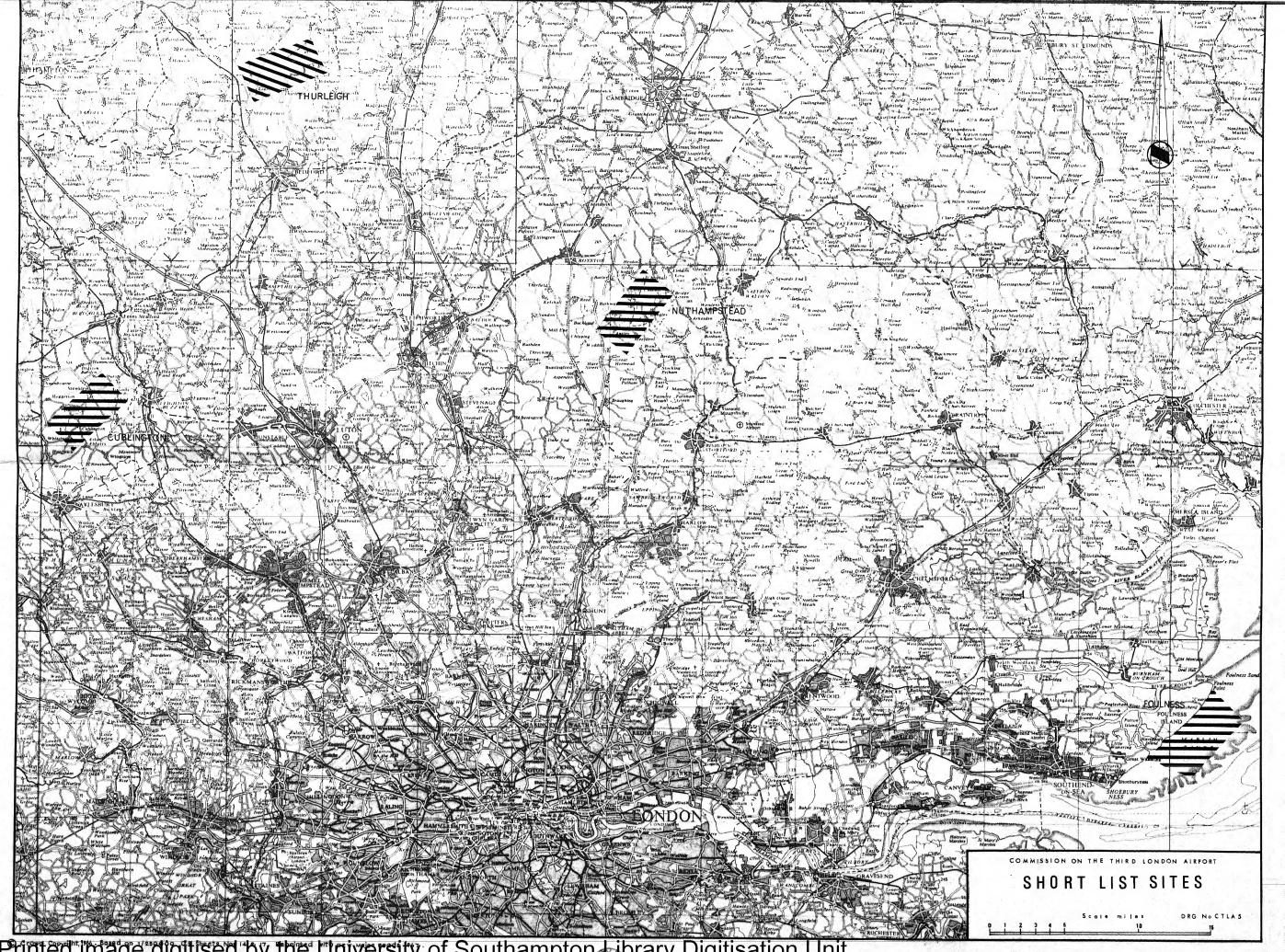
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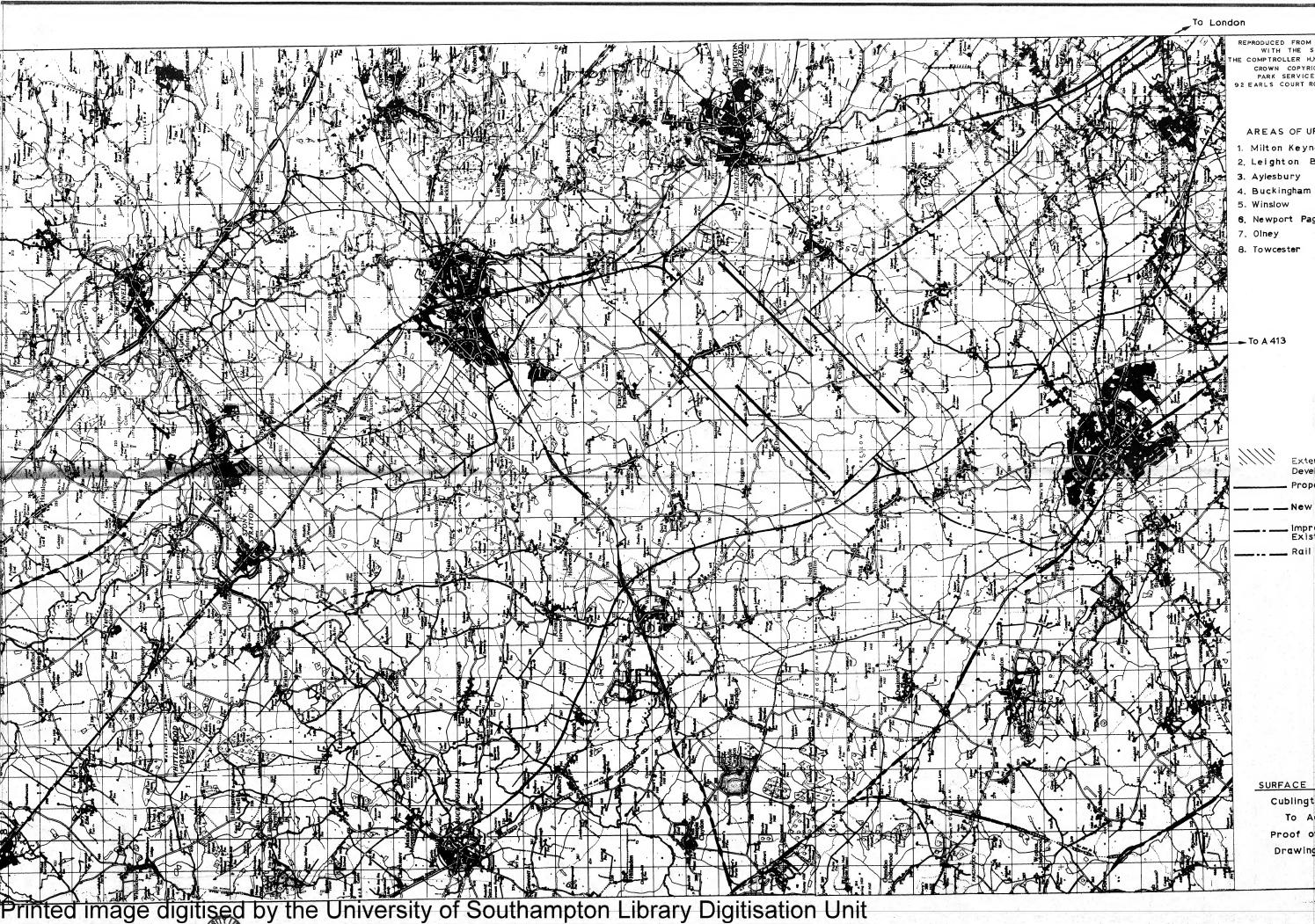
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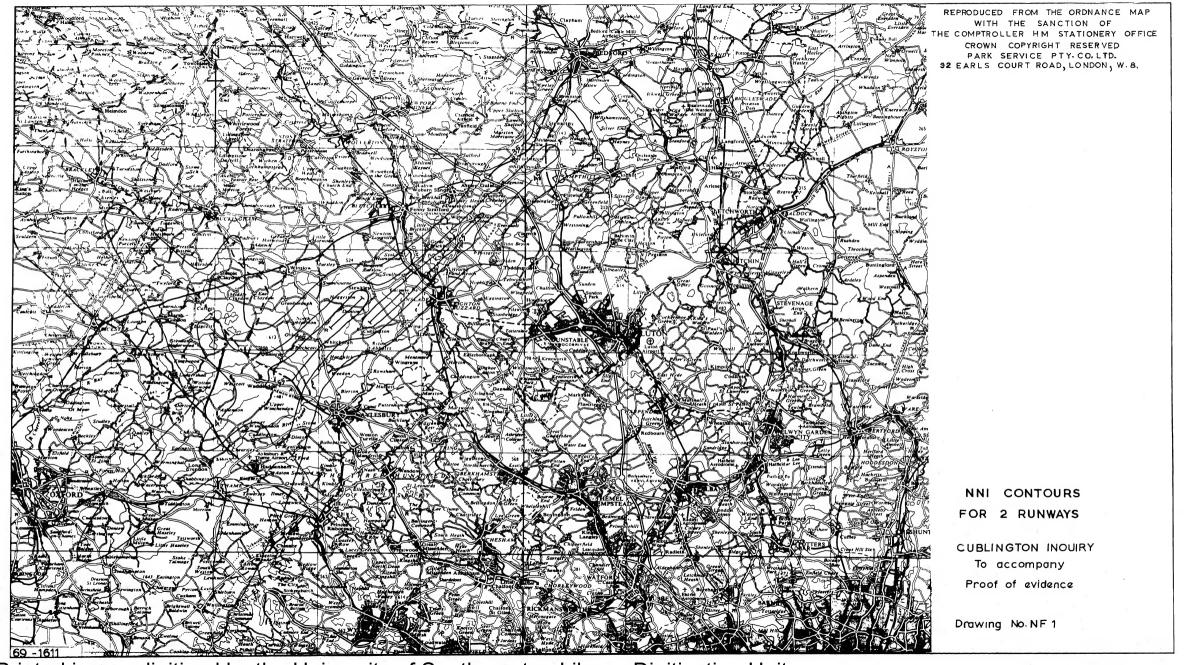


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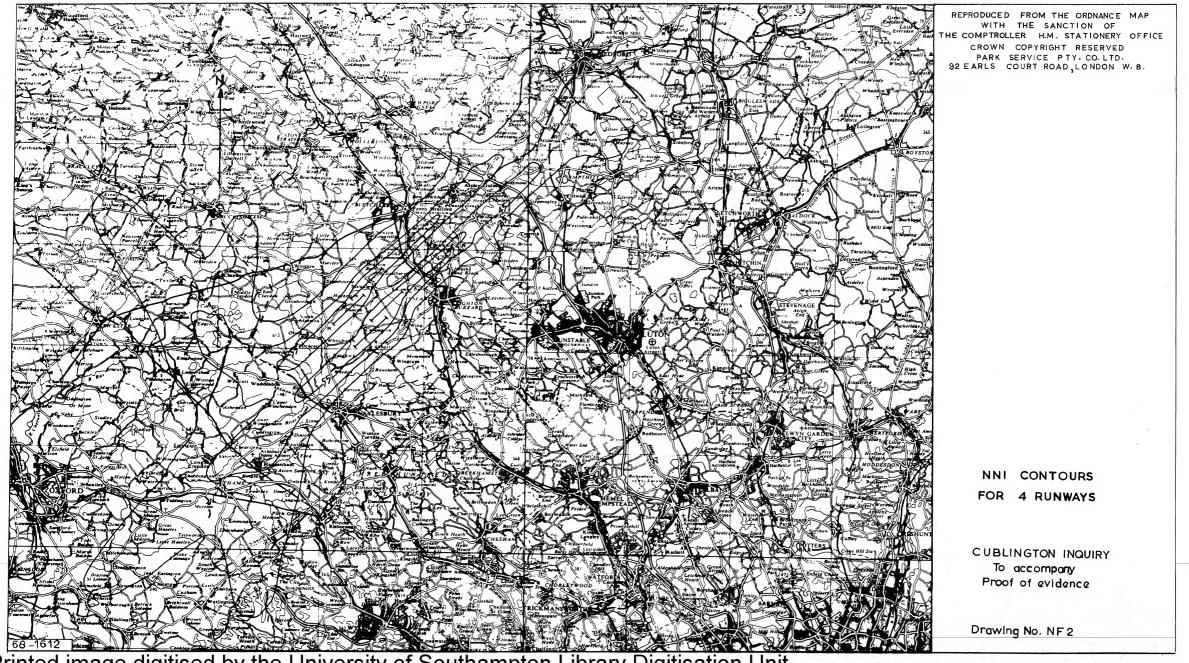


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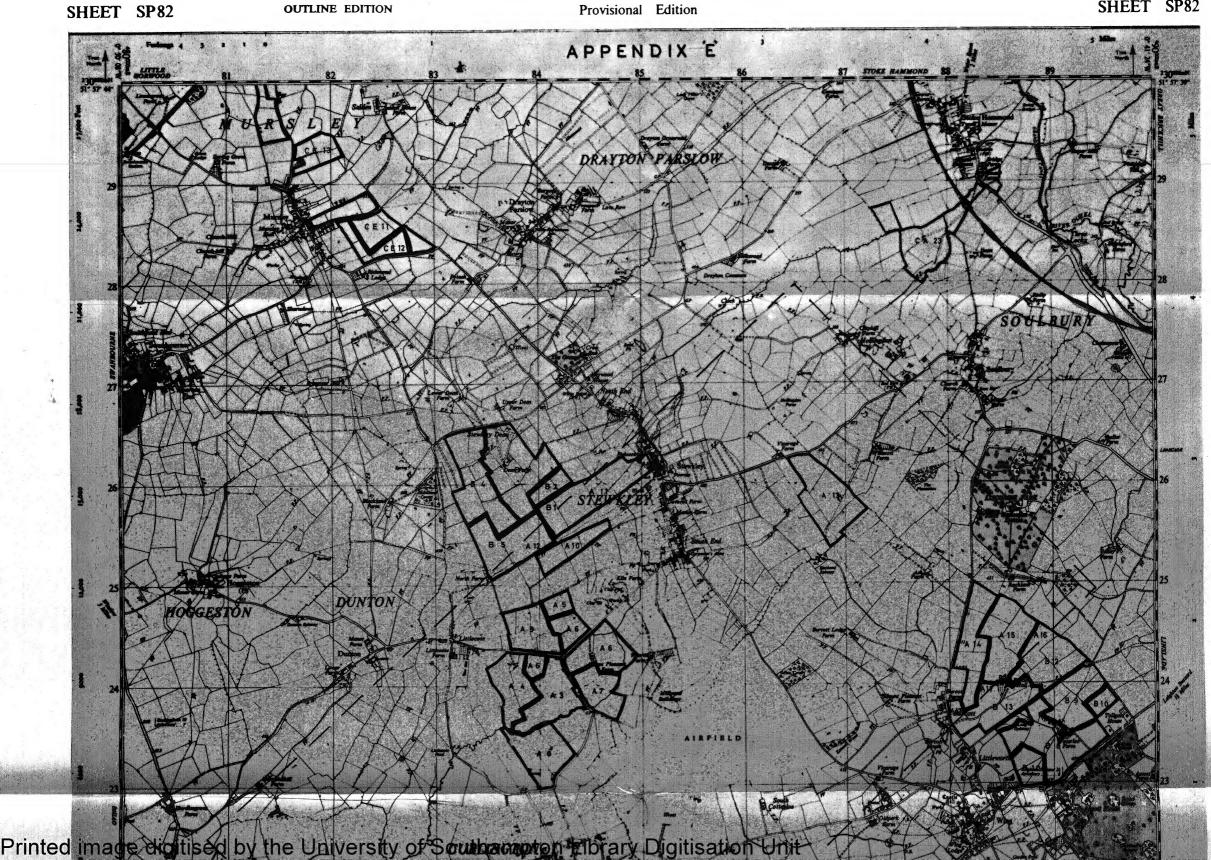
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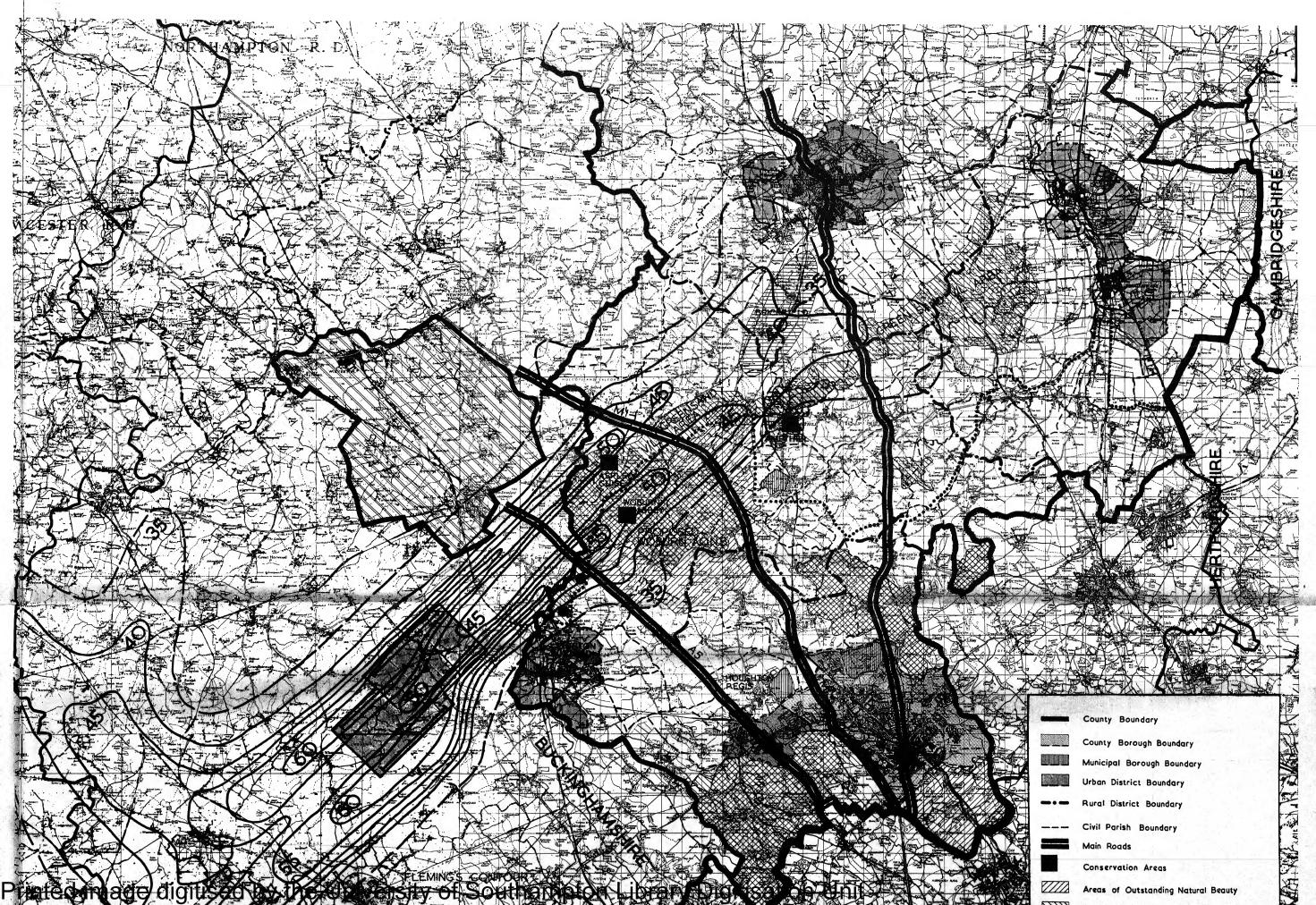
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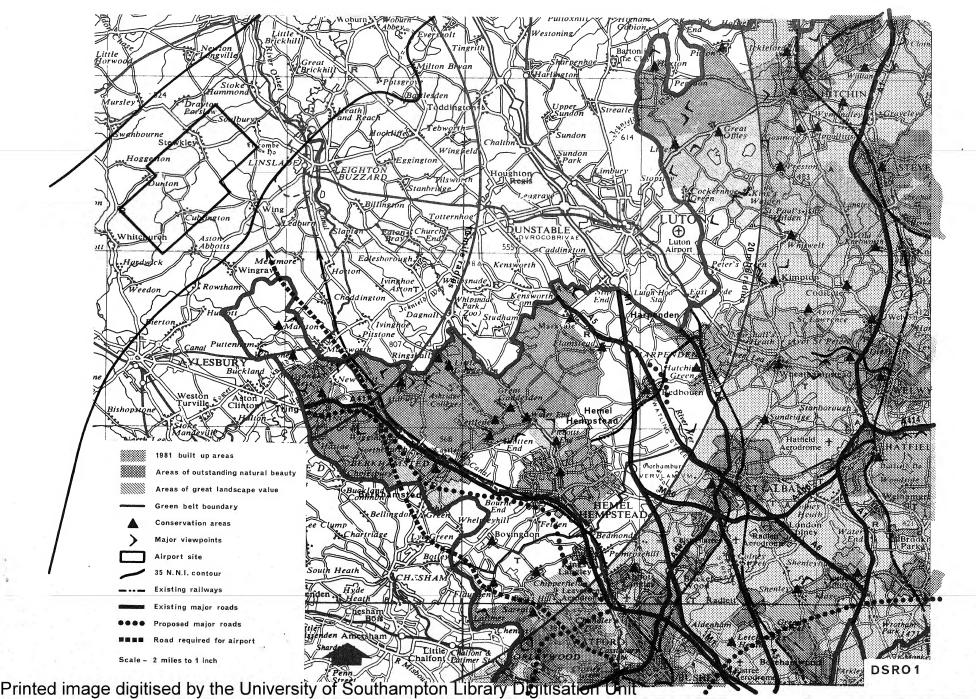
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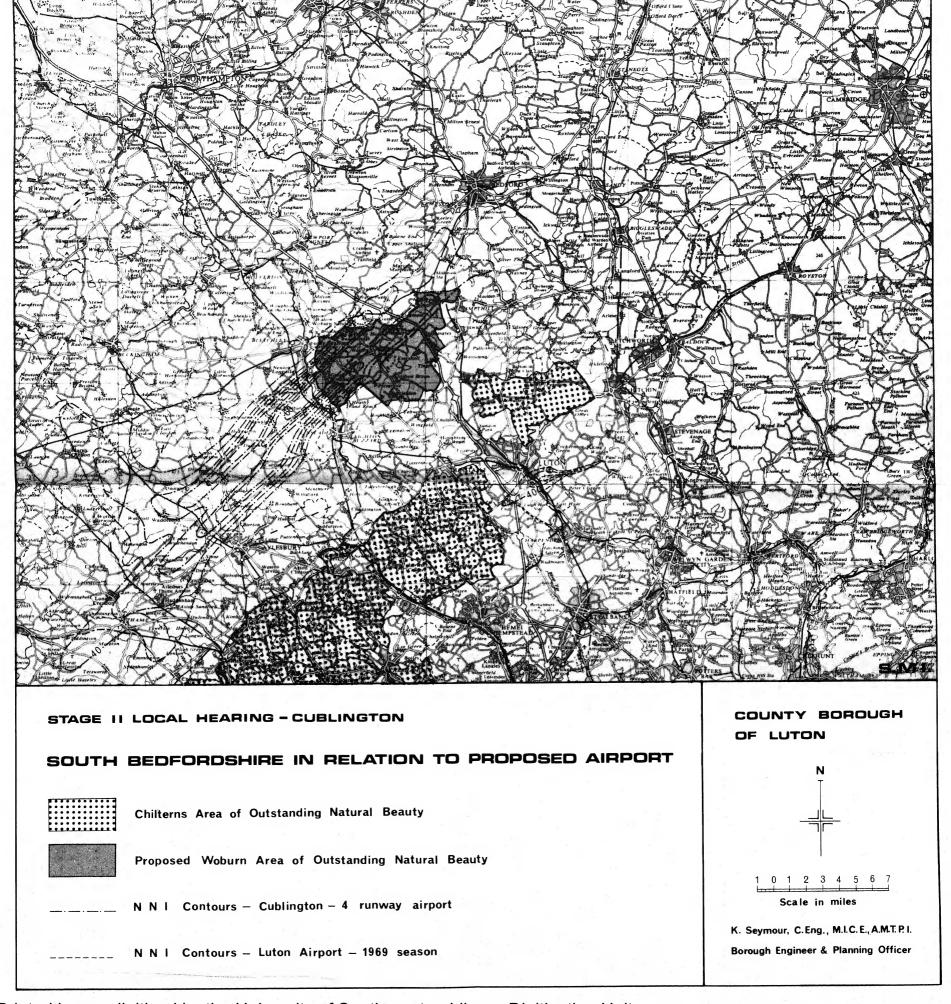
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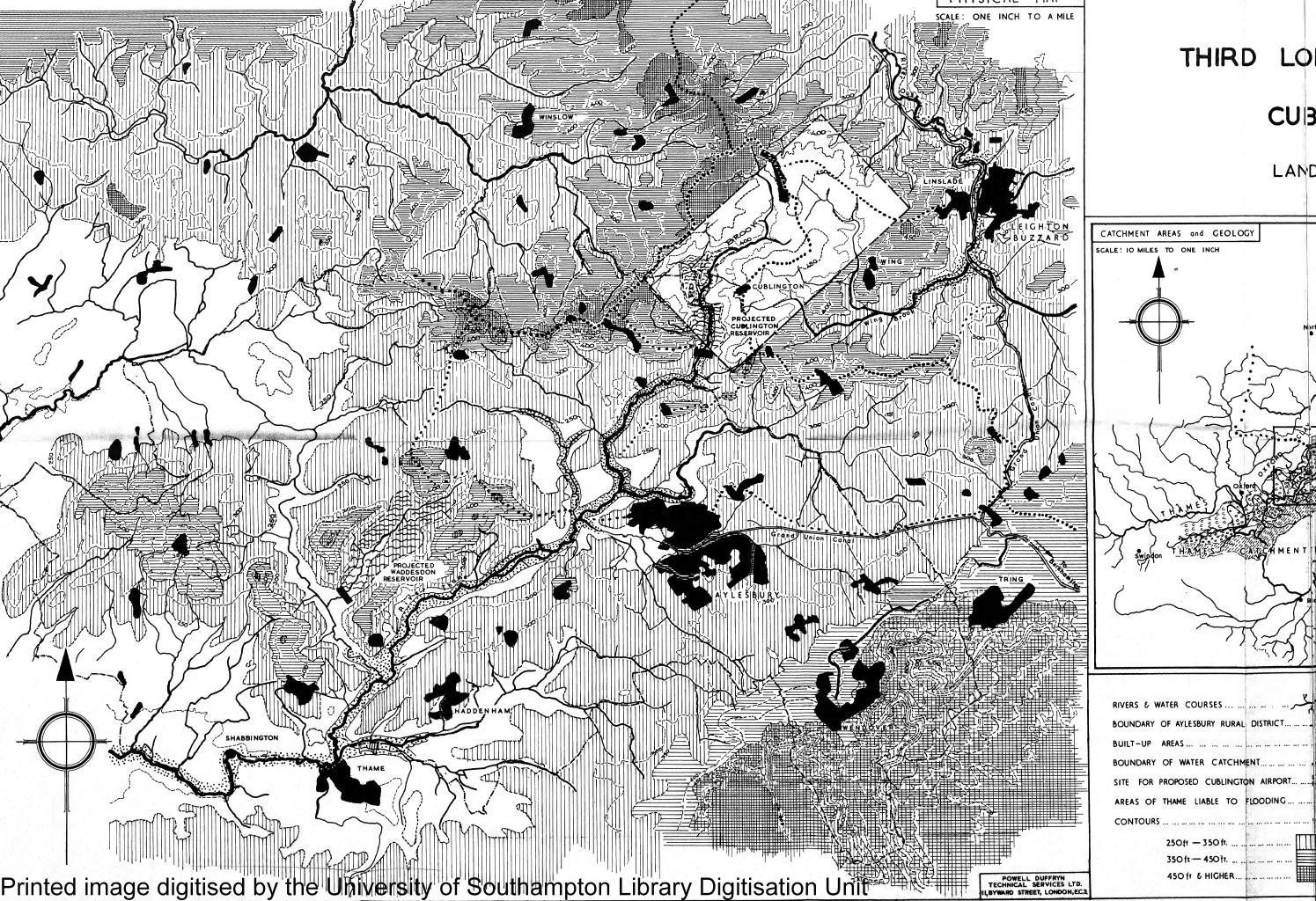
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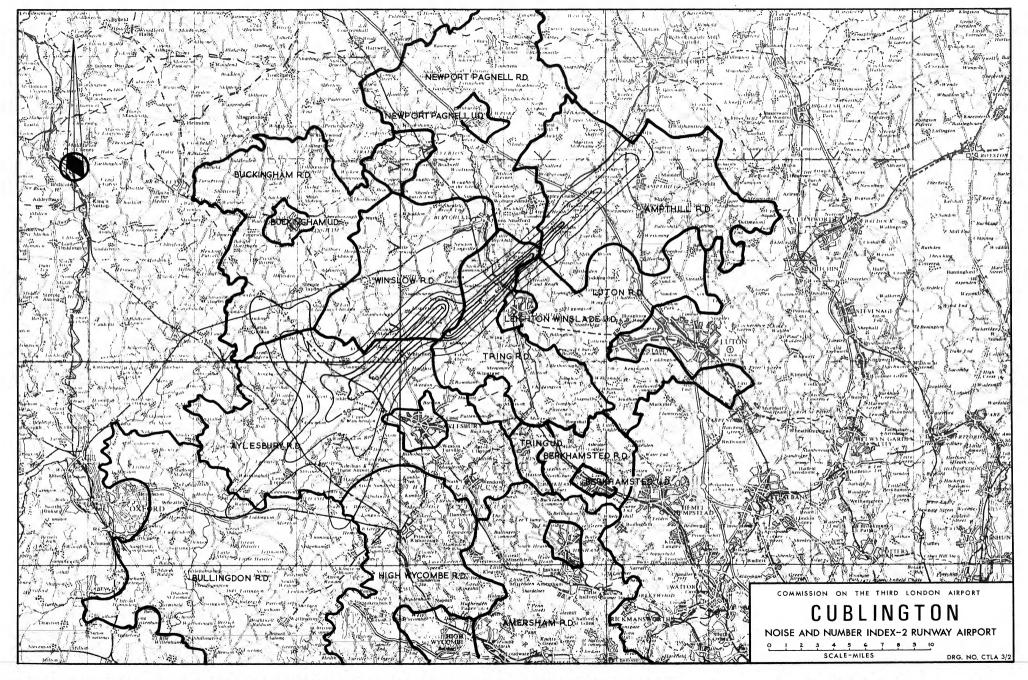




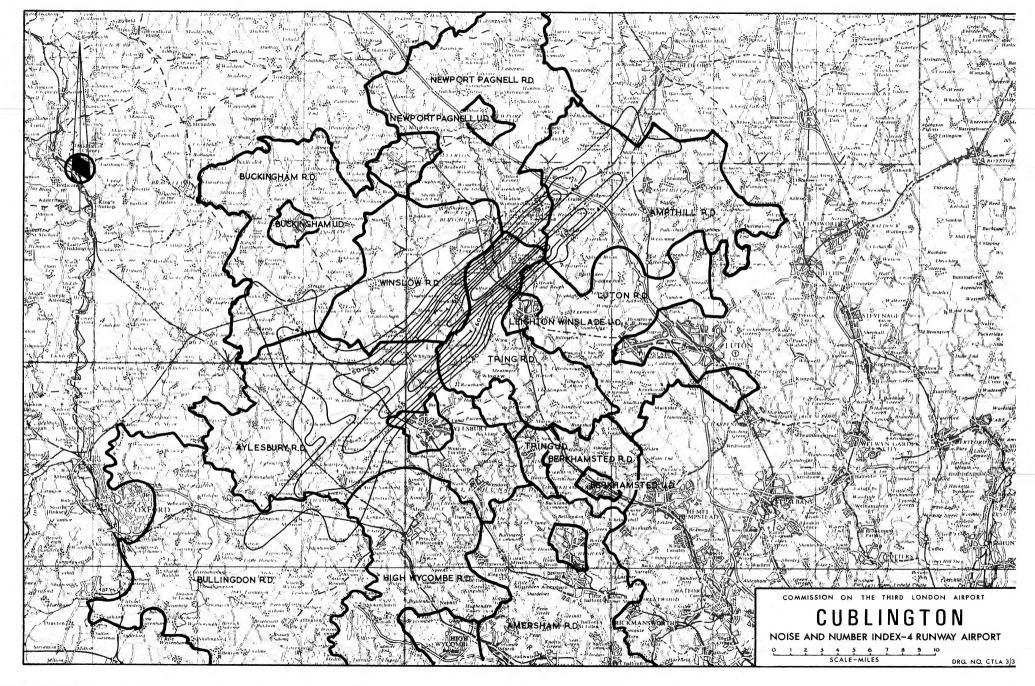


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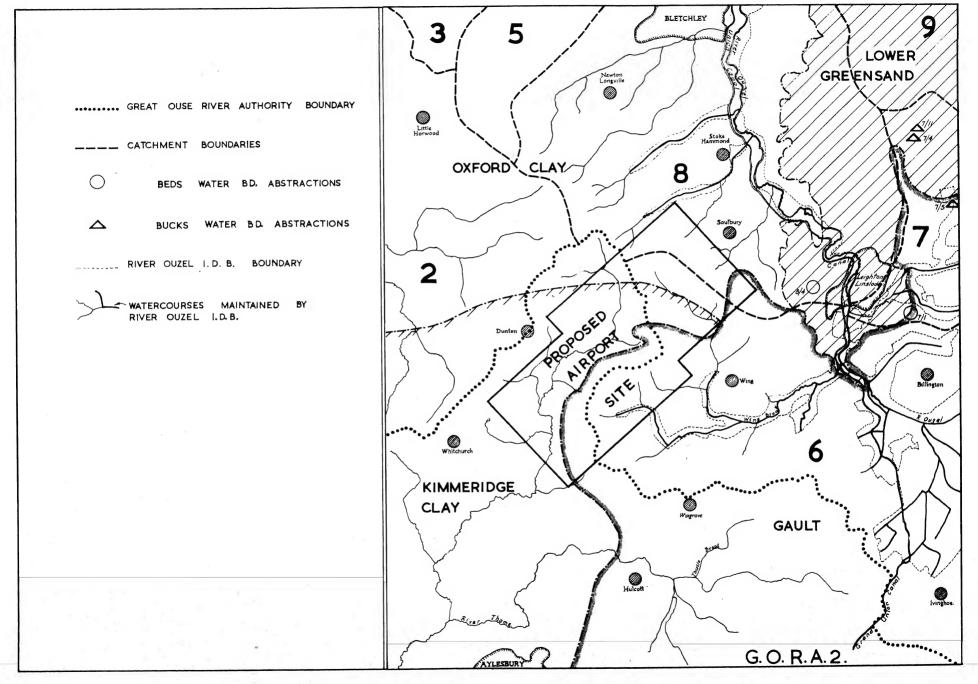




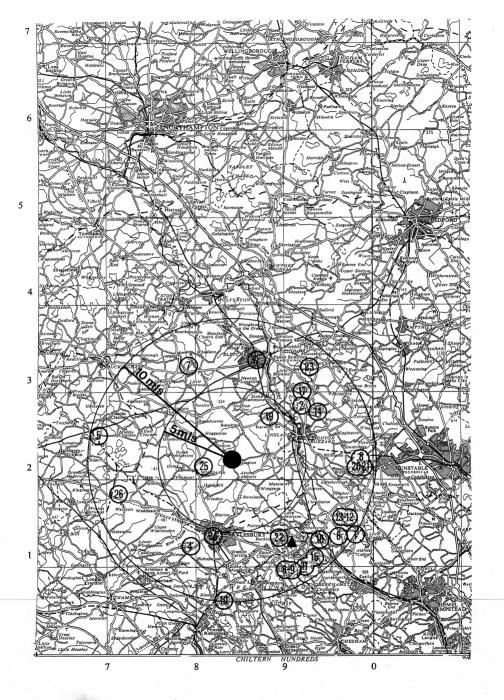
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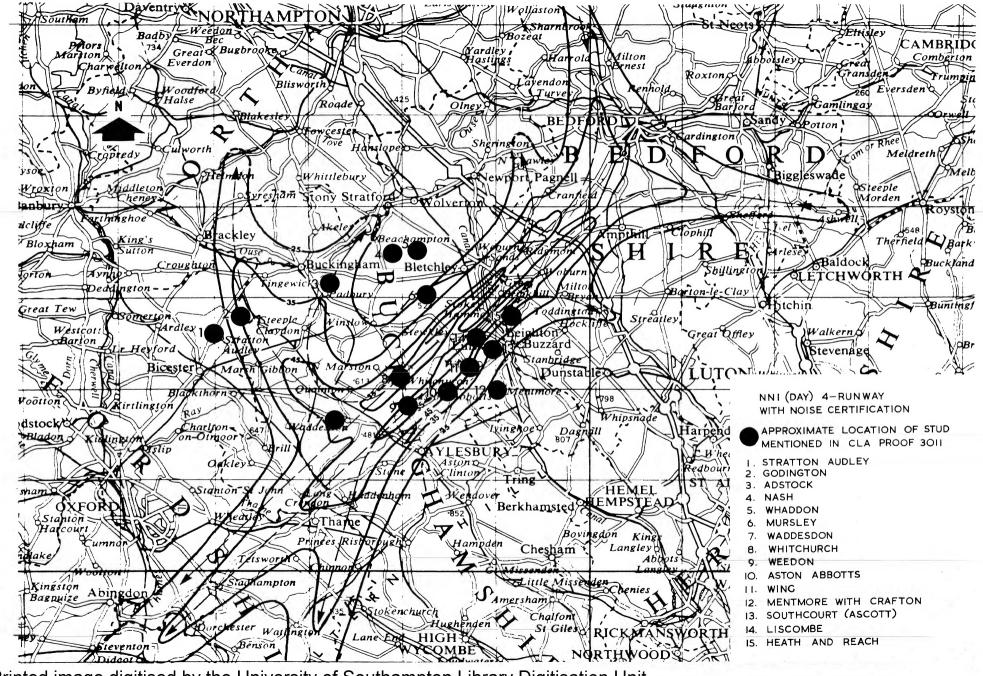
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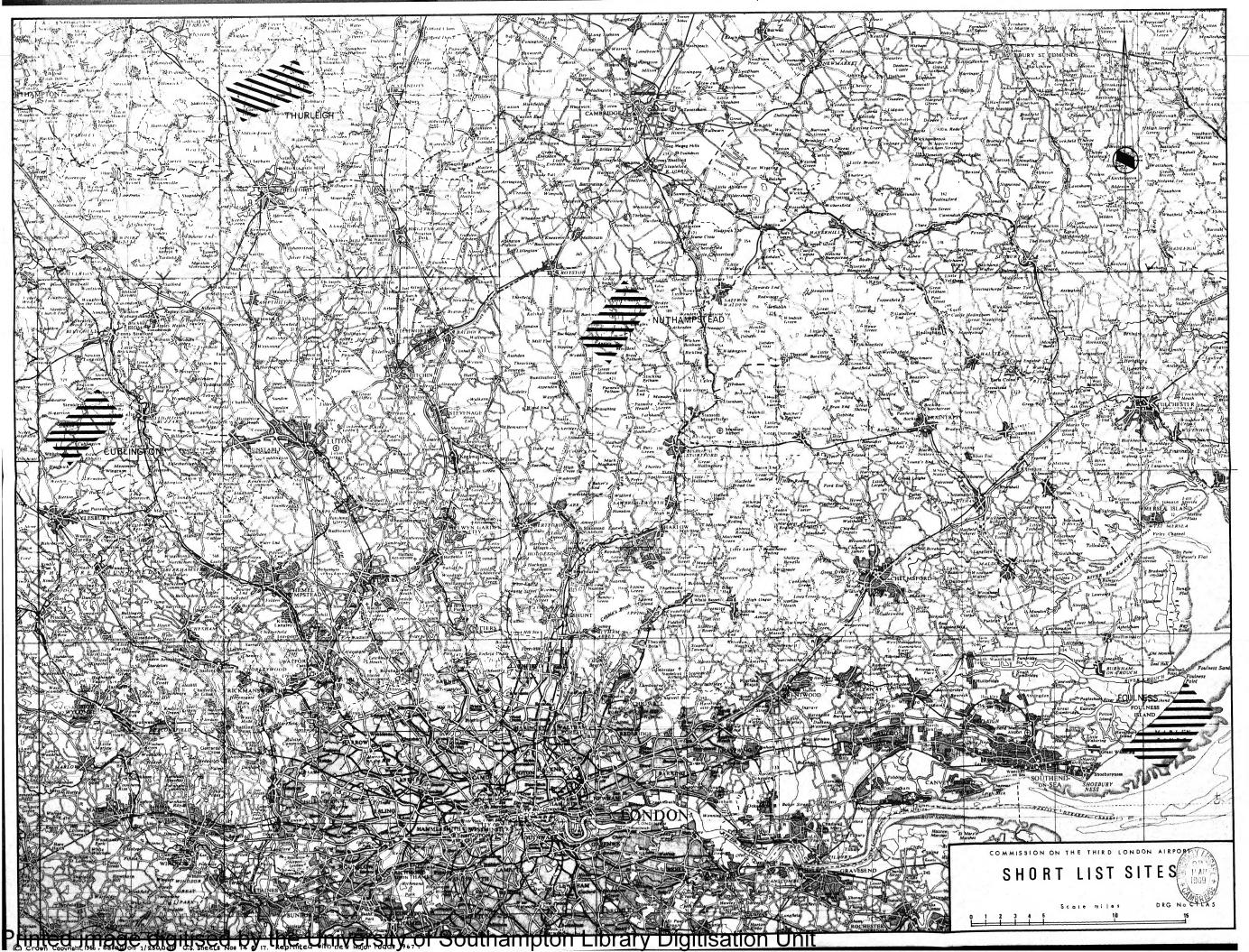
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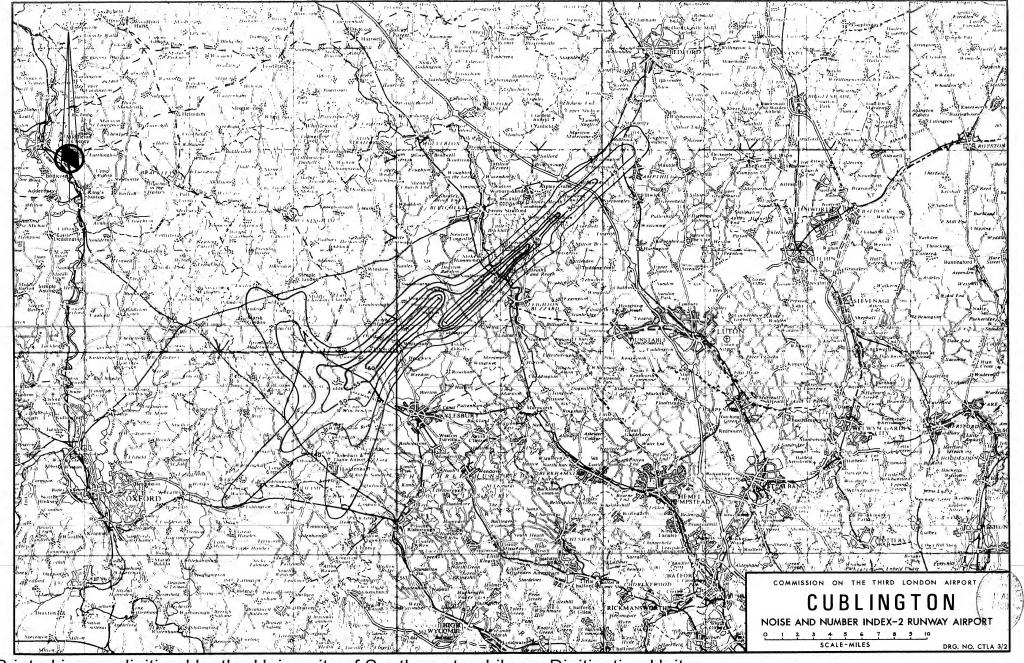


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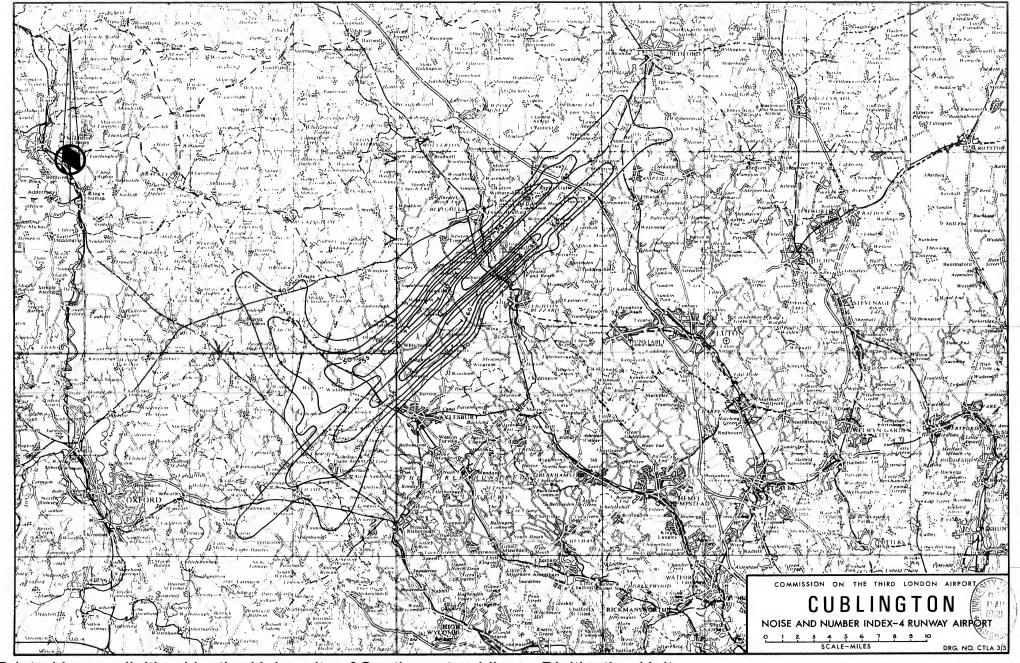


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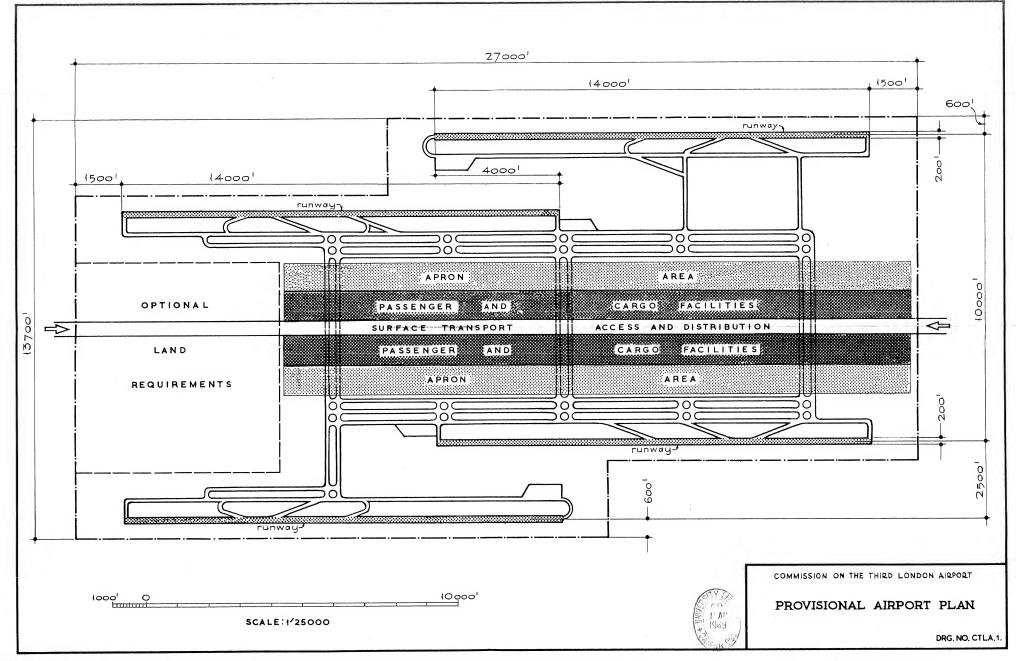




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# Site Information for Stage II Local Hearings

# 3. Cublington (Wing)

# 1. Introduction

The information set out below is intended to give a broad indication of what would be involved if the third London airport were to be located at Cublington. At this early stage of the Commission's work it is not possible to give final detailed plans for an airport at this site or for the surface access arrangements which would be required. The material under the various headings should, however, enable local implications of an airport at Cublington to be assessed and should provide a suitable basis for objections, comments and representations at the Stage II local hearing.\*

- 2. As the Commission's work progresses and in the light of the evidence of the Stage II hearings, it will be possible to prepare more detailed plans. These will be available for the Stage V hearings.
- 3. The base maps used to illustrate this material are the latest published by the Ordnance Survey. They do not show the most recent developments.

# 2. Airport Layout

- 4. The Commission recognises that there is no single airport layout which is the best possible for all the sites. Each site has to be carefully studied to establish factors, such as terrain and local geological conditions, so that the best layout at that particular site can be obtained. Detailed studies have not yet been carried out at Cublington, or any of the other short listed sites. Nevertheless, the Commission recognises the need for providing the public with some indication of the likely size and shape of a four-runway airport.
- 5. The layout shown at plan CTLA/1 illustrates an arrangement which would be acceptable both to the National Air Traffic Control Services and to the British Airports Authority. An airport of this design could be constructed at Cublington. It is emphasised that it is not the only possible configuration, but the basic runway separation distances which control the amount of land required are unlikely to be much less than is shown. The total land-take of an airport at Cublington with this layout would be approximately 7,500 acres (including the areas shown as "optional") but the possibility of a larger land-take being required cannot be excluded.

# 3. Runway Alignment

6. The runway alignment is 45 degrees east of north (grid). This is shown on the NNI (Noise and Number Index) contour plans CTLA/3/2 and CTLA/3/3. The alignment differs from that indicated by the shaded rectangle on plan CTLA/5 (Short List Sites). This new alignment provides a better balance of the following important factors: noise disturbance, existing facilities and

<sup>\*</sup>See Appendix A for procedure and programme.

amenities, air traffic to other civil airports, air traffic patterns, military aviation, meteorological conditions and terrain. The Commission recognises that further changes to this alignment may subsequently be justified.

# 4. Airport Site

- 7. The area proposed embraces the old airfield at Wing. The precise airport location would be strongly influenced by the need to arrange the runways and taxiways in the best possible way having regard to the existence of the valley to the west of Cublington. The falling ground to the northwest, in the vicinity of Soulbury, imposes practical limits in this direction also.
- 8. The site is used primarily for agriculture. It has been considered as one of a number of sites suitable for a reservoir.
- 9. The area is predominantly boulder clay with glacial gravel and alluvial deposits in the river valleys and outcrops of Portland sand and stone. Construction should present no serious problems although site preparation costs would be higher than normal because of the undulating nature of the terrain.

#### 5. Noise and Disturbance

- 10. On the basis of the Registrar General's Annual Estimates of Population for 1968, it is estimated that about 1,200 people currently reside in the area likely to be covered by the site.
- 11. Estimates have been made of the probable NNI\* contours for the airport at the full capacity of two runways and again at the full capacity of four runways.
- 12. Contours down to the 40 NNI level are shown on plans CTLA/3/2 and CTLA/3/3. Attention is drawn to the fact that these contours are of necessity approximate, and that they can give only a general indication of the areas likely to be affected. It is especially difficult to estimate the number of aircraft likely to be using particular flight paths in the four-runway case (some thirty years in the future) and the best way in which these flight paths can be routed to minimise the impact of noise on urban areas. It will be observed that the Milton Keynes designated area lies outside the 40 NNI contour.
- 13. The reliability of the Noise and Number Index has been questioned. This is a matter which can be further investigated in due course. Separate night time NNI contours have not been prepared but, as the NNI is related to the number of aircraft movements and these are likely to be less at night than by day, it is a reasonable assumption at this stage that the night NNI contours will be less extensive than the day contours depicted. The contours relate to an average summer day—normally the busiest time of the year—with no special noise abatement procedures. It has been assumed in the NNI contours that noise certification regulations will be introduced and will lead to a reduction in the noise effect of aircraft by 10 NNI over the next twenty years, but that half this reduction will be offset by growth in aircraft weight.
- 14. The present population (based on the 1966 Census) affected by the different NNI contours are estimated to be:

Noise level				NNI	2-runway	4-runway	
Intrusive					40-45	15,200	16,300
Intrusive/anno	ying			• • • •	45-50	5,600	10,900
Annoying	•••				50 +	3,400	7,200

\*See Noise: Final Report of the Committee on the Problem of Noise. (Cmnd. 2056; HMSO; 19s, 6d.)

The Report of the Committee on the Problem of Noise reached the tentative conclusion that the critical range of disturbance was 50-60 NNI by day and 30-45 NNI by night.

15. The Commission is not publishing at this stage maps showing flight paths and stacking areas. Flight path maps will not give information about the levels of disturbance caused by aircraft in the vicinity of the airport. Such information is given by the NNI contour maps. It is not possible at this stage to indicate precisely where stacking areas might be located. However, they do not extend below 5,000 ft and the disturbance caused by aircraft held in stacks is most unlikely to reach the 40 NNI level.

# 6. Airport Employment

- 16. The introduction of a large international airport into an area is bound to create an inward movement of population. There will be those directly engaged on the airport ("primary employment"). There will be those engaged in manufacturing industry and commercial projects attracted specifically by the location of the airport ("secondary employment"). There will be those engaged in providing for the needs of the primary and secondary workers and their dependents ("service employment").
- 17. At this stage, the Commission's best estimate of the primary employment which the airport will generate at the full capacity of two runways is 45,000 and at the full capacity of four runways is 65,000. These figures depend on many factors, including the extent to which airlines will set up engineering facilities at the new airport. These levels of primary employment are unlikely to be reached before the mid-1980s and mid-1990s respectively. The accuracy of this forecast must depend on the date of inauguration of the airport and the subsequent build-up of traffic. The estimates are based on an analysis of employment and air traffic at Heathrow.
- 18. The Commission expects to receive valuable evidence on the issue of resulting urbanisation at the local hearing.

#### 7. Surface Access

- 19. The total annual number of passengers using the airport when two runways are running at full capacity is likely to be about 45 million. When four runways are running at full capacity it could be over 100 million. The forecasts are tentative and are put forward to give some indication of the scale of the surface access problem.
- 20. The Ministry of Transport and British Rail are not yet in a position to provide definite plans for this level of traffic but it is thought desirable to provide some indication of the possibilities for use at the local hearing. It is envisaged that new roads connecting the proposed site to M1, A41 and A413 would be required initially. Subsequently additional road capacity would be required for road traffic travelling to the Midlands and London. Rail facilities to a London terminal combining existing lines and new links will be needed from an early date.

#### APPENDIX A

# Arrangements for Stage II Hearing on Cublington (Wing)

# Scope of Stage II Hearings

The main purpose of the Stage II hearings is to provide an opportunity for the Commission to be informed as early as possible of all the local implications which it should take into account in its further work on the short list sites. At the hearings the Commission will not be advancing proposals for an airport at the particular site in question but, on the assumption that an airport might be located there, will be asking for objections, comments and representations on the local consequences. The Stage II hearings are not intended to afford an opportunity for making comparisons between the site in question and other sites. Objections, comments and representations must, therefore, be confined to the site proposal in question. The opportunity for comparisons between the short listed sites will arise at the public hearing in Stage V.

2. The Stage II hearings are not ordinary planning inquiries. There will be nobody in the position of applicant for planning consent. Mr. A. J. Hunt, who is a Principal Planning Inspector and a Member of the Commission, will preside. He will already be familiar with the main issues involved and will not be required to decide between any conflicting views put forward. It will be for the Commission as a whole to evaluate the evidence given after the Inspector has reported to it.

### Procedure for the Stage II Hearings

- 3. The site information published by the Commission should be sufficient to enable those concerned to appreciate the local implications of what is proposed.
- 4. Interested parties must apply to the Commission in writing for leave to be heard or represented at the Stage II local hearings. All applications must be accompanied by a brief statement of the nature of the evidence which it is desired to give. These applications will so far as possible be dealt with by post but if the Commission requires any applicant to present his application orally he will be asked to attend a special meeting for the purpose. Those given leave to be heard or represented will be invited to attend a private meeting to discuss what will be the main issues to be covered at the Stage II local hearings, and how the proceedings should best be conducted.
- 5. The Commission intends to ensure that the best use is made of the time available for the local hearings. Those given leave to appear or be represented must produce their statement, proofs and all other relevant documents well in advance of the hearing so that they can be made available to other interested parties before the hearing begins. This will largely avoid the need for examination in chief. The Commission asks that representative organisations or groups will, so far as possible, put forward a common view so that repetition of similar views and unnecessary cross-examination can be avoided.
- 6. In general the Inspector will have complete discretion and control over the proceedings. He will be entitled to withhold permission to call any witness whose cyidence appears likely to be irrelevant or repetitive. There will be no appearance at the hearings on behalf of the Commission but any party given leave to appear or be represented may at the Inspector's discretion be allowed to cross-examine any witness called to the extent that such cross-examination is relevant to the issues before him.
- 7. The Inspector will before the hearing circulate to all concerned a programme of appearances and so far as possible agree this with them.
- The hearings will be in public. A complete shorthand note will be taken. Copies
  of the transcript will be available for purchase from the shorthand writers, Messrs.
  Cherer & Co., 34, Essex Street, Strand, London WC2.

9. The Inspector will also have regard to any relevant written objections, comments and representations on the local consequences submitted by those not seeking leave to appear or be represented at the hearing. Such written submissions should reach the Secretary not later than Friday, 27th June 1969.

# Time Table for the Stage II Hearing on Cublington

10. The following time table shows the proposed timing of the various phases of the procedure for the local hearing on Cublington:

(a)	Commission material published	29 April
(b)	Applications for leave to appear or be represented by	16 May
(c)	Date of hearing of applications (if required)	30 May
(d)	Meeting to discuss procedure	2 June
(e)	Statements, proofs and other documents (including written submissions) to be received not later than	27 June
(f)	Start of hearing	14 July

#### Applications

11. The Commission is now ready to receive applications for leave to appear or be represented at the hearing on Cublington. These should reach the Secretary at Templar House, 81-87, High Holborn, London WC1, not later than Friday, 30th May 1969. The hearing will start at 10 a.m. on Monday, 14th July 1969 at the Borough Assembly Hall, Aylesbury.

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Dd. 152210 K40 4/69



# COMMISSION ON THE THIRD LONDON AIRPORT

# Site Information for Stage II Local Hearings 3. Cublington (Wing)

# AMENDMENTS

page 6, paragraph 10, sub-paragraph (b) delete "16 May", insert "30 May"

page 6, paragraph 10, sub-paragraph (d) delete "2 June", insert "16 June"



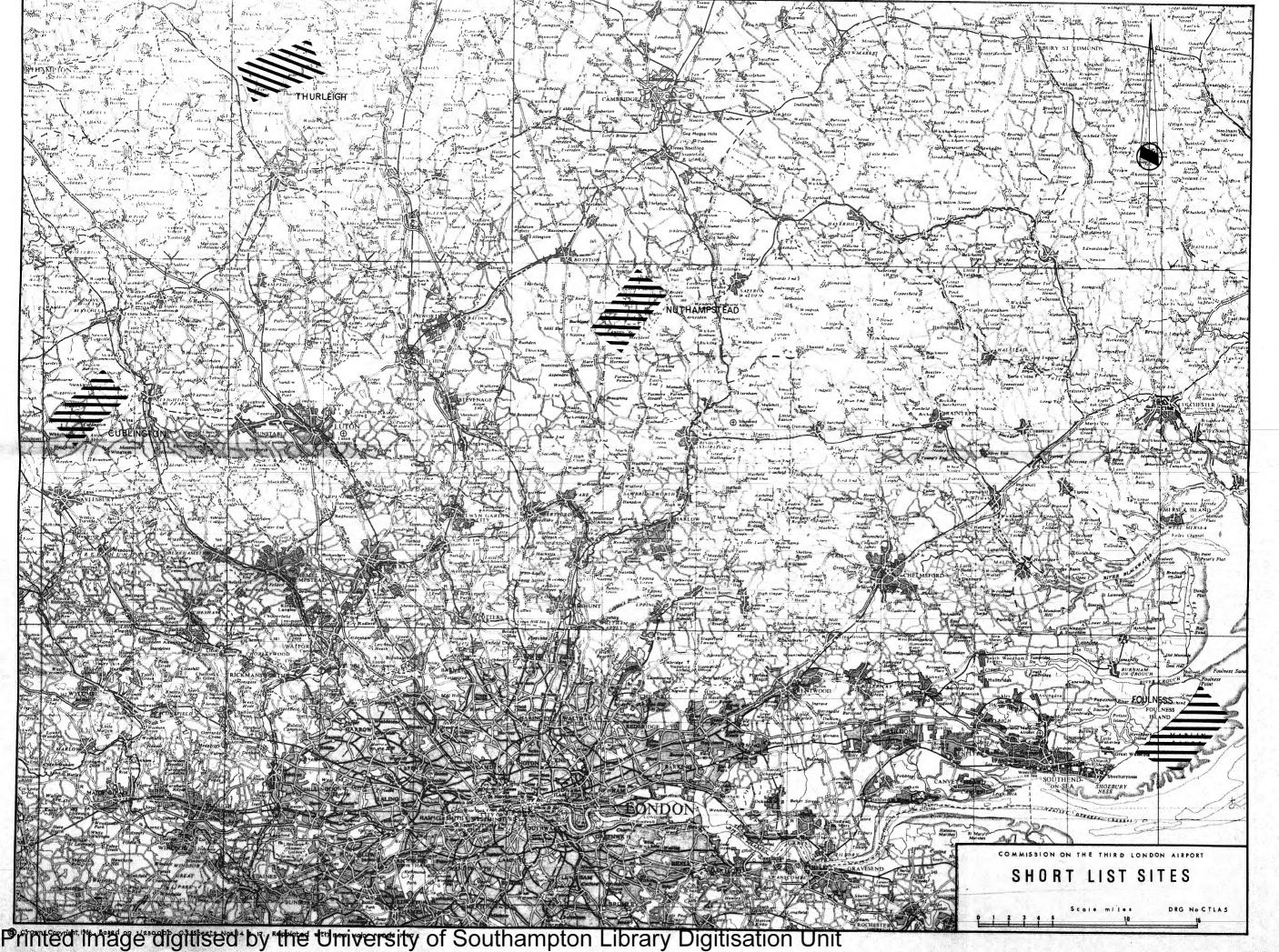
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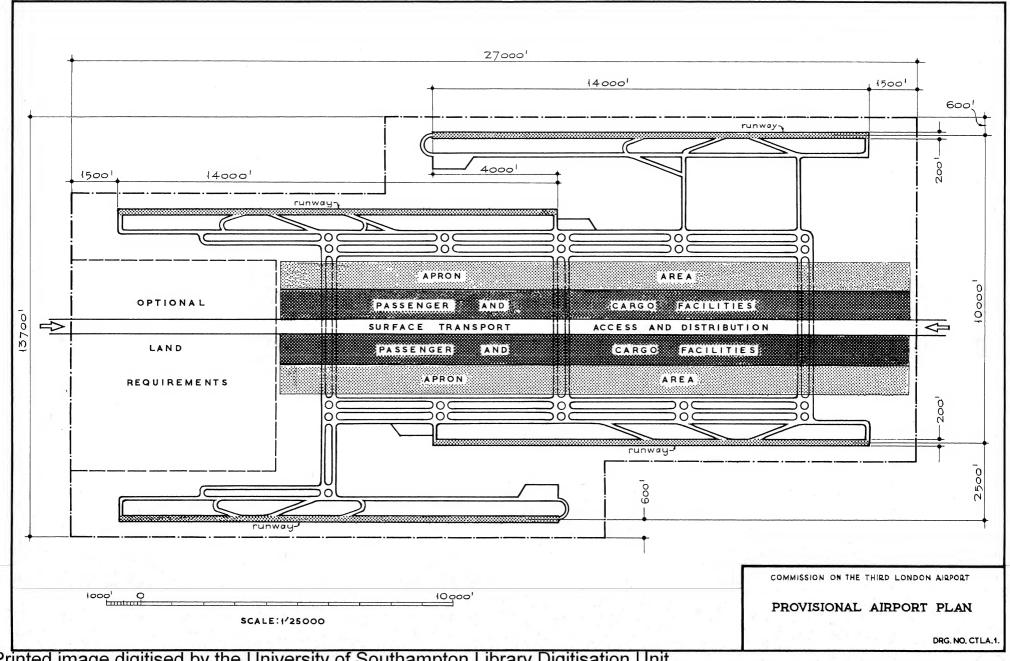
# Site Information for Stage II Local Hearings

3. Cublington (Wing)

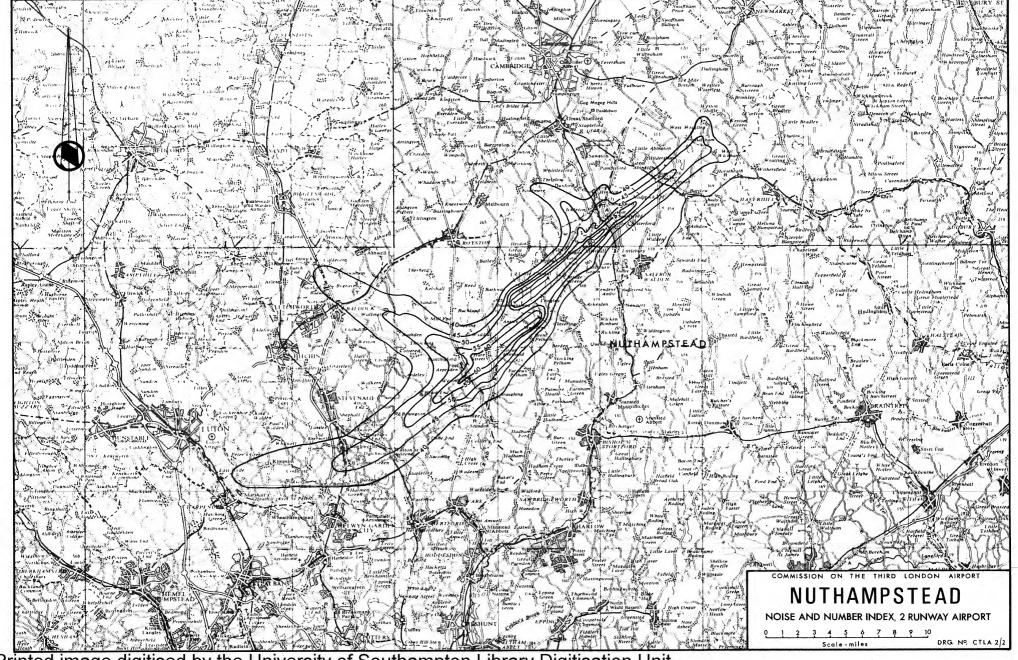


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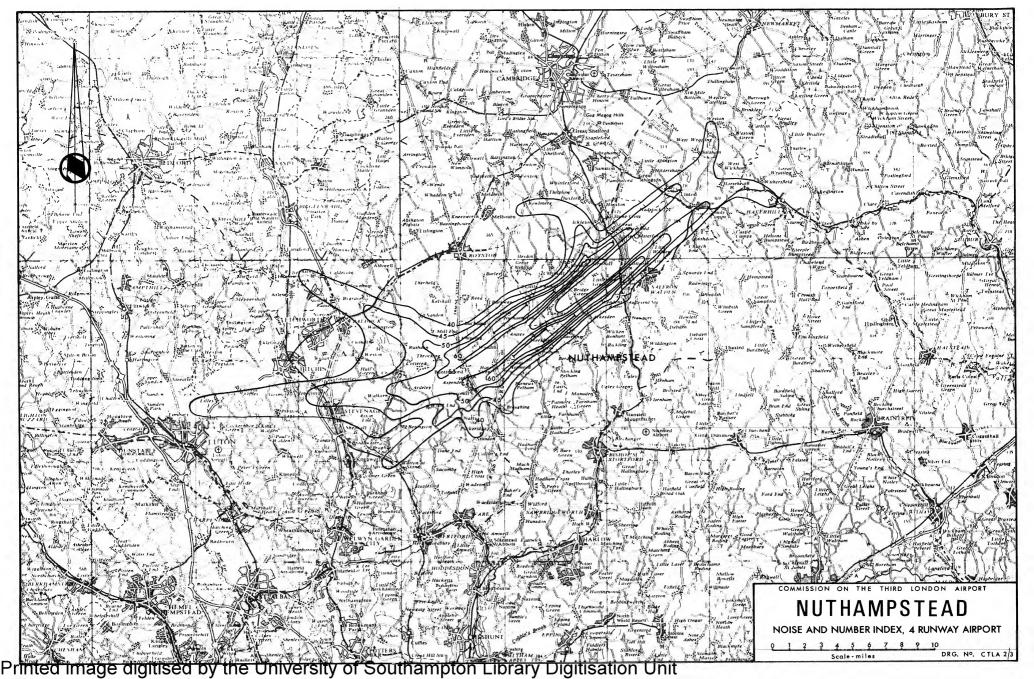


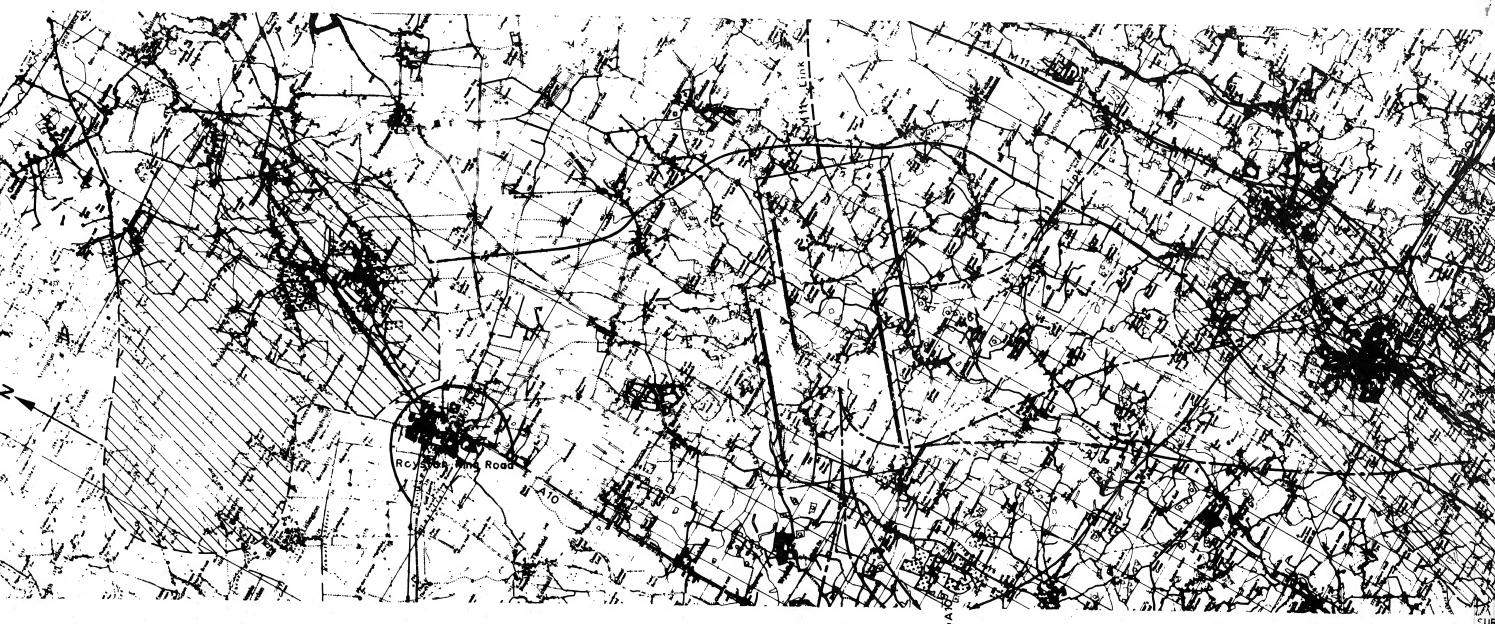


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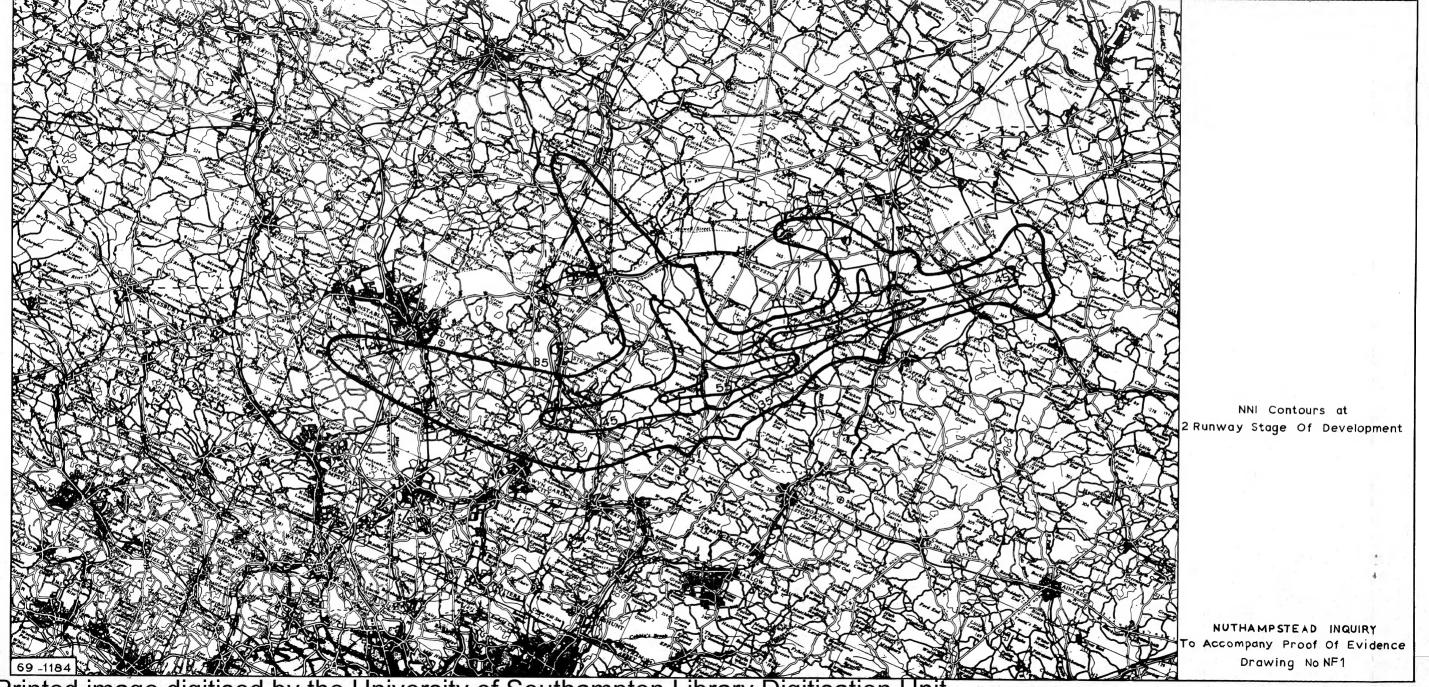


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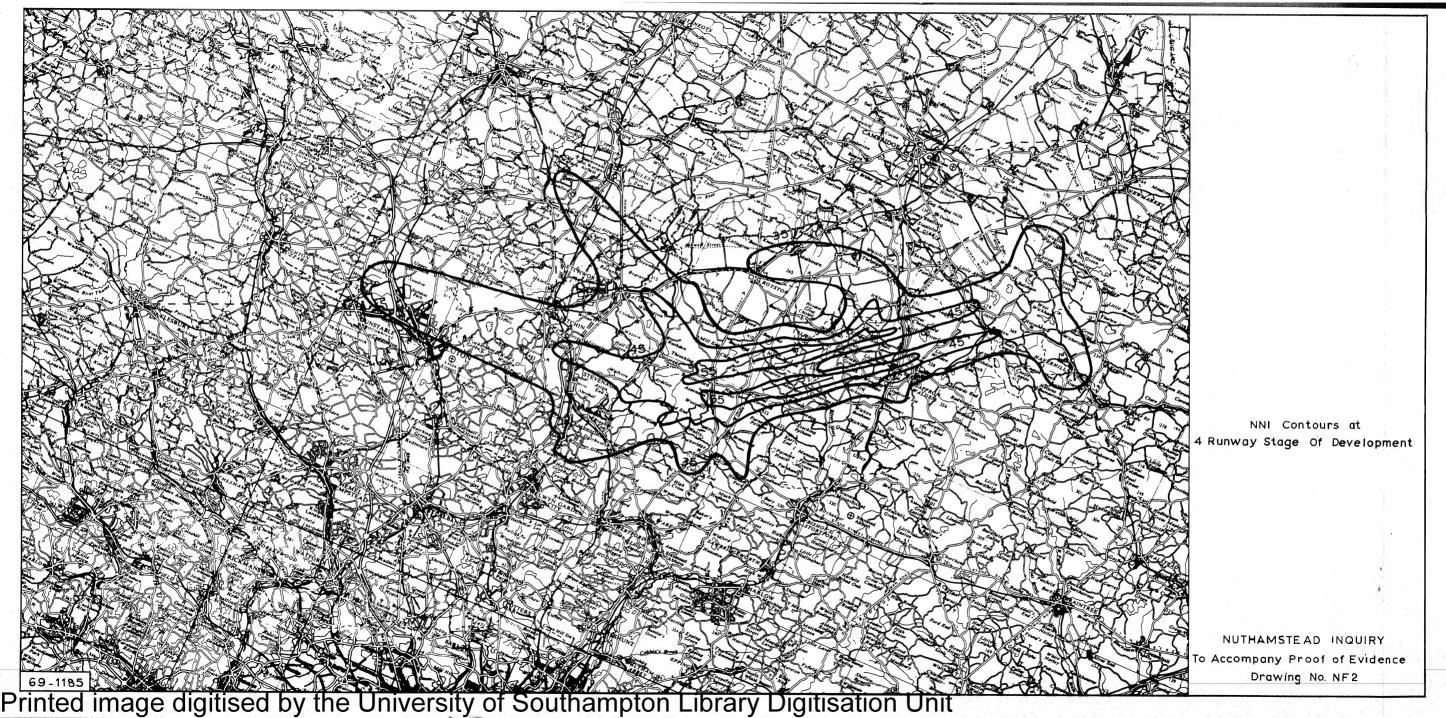


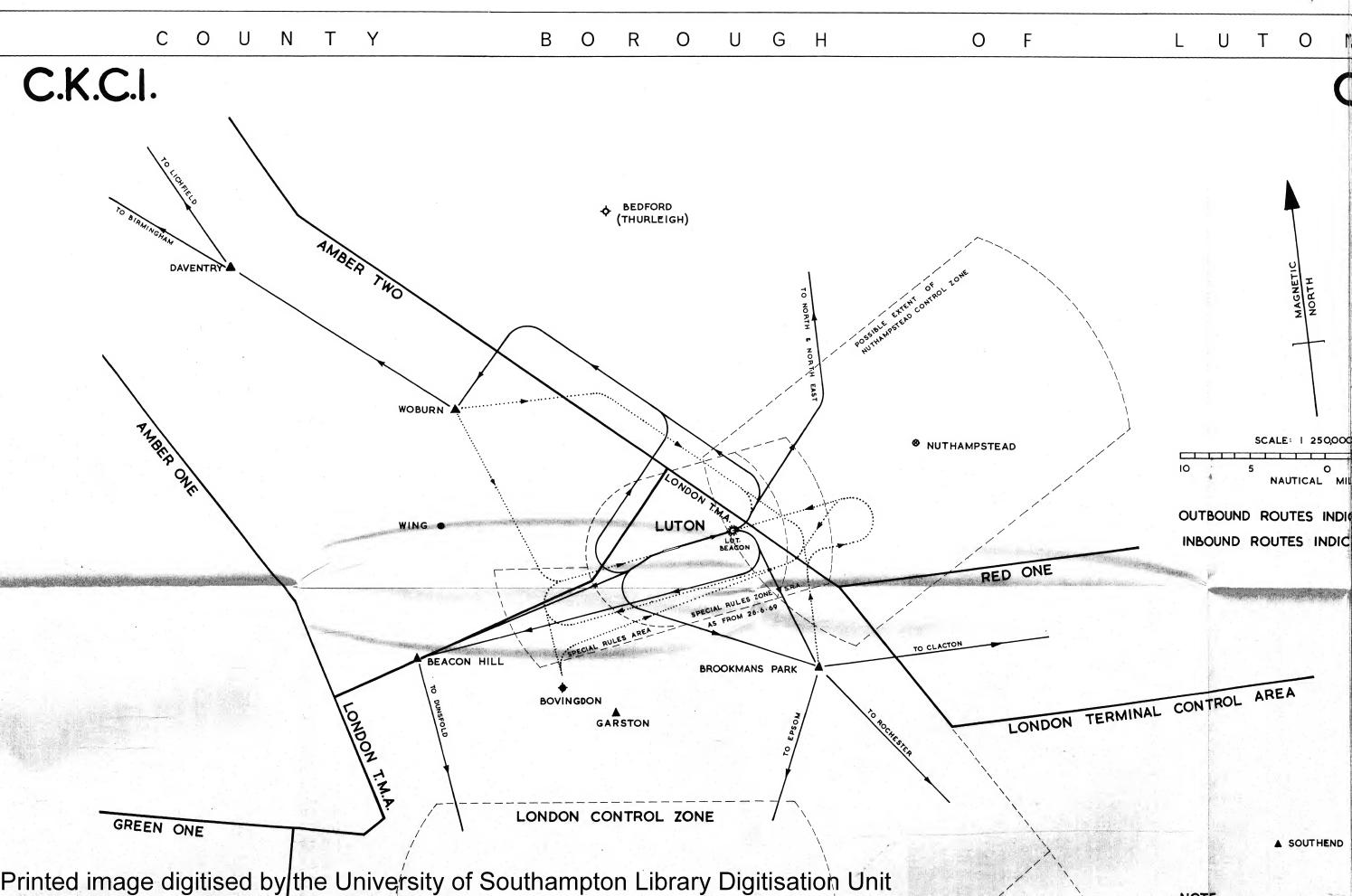


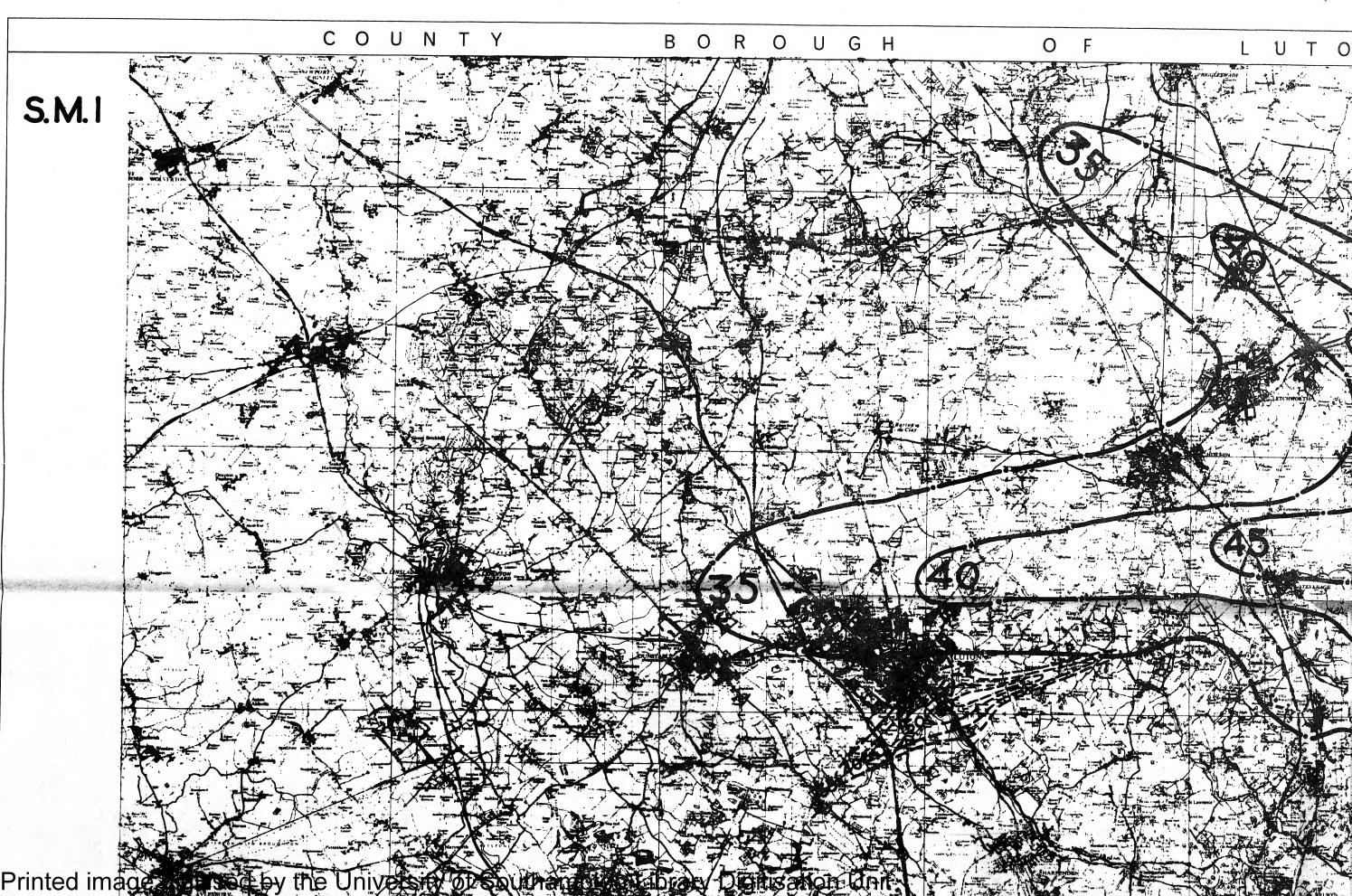
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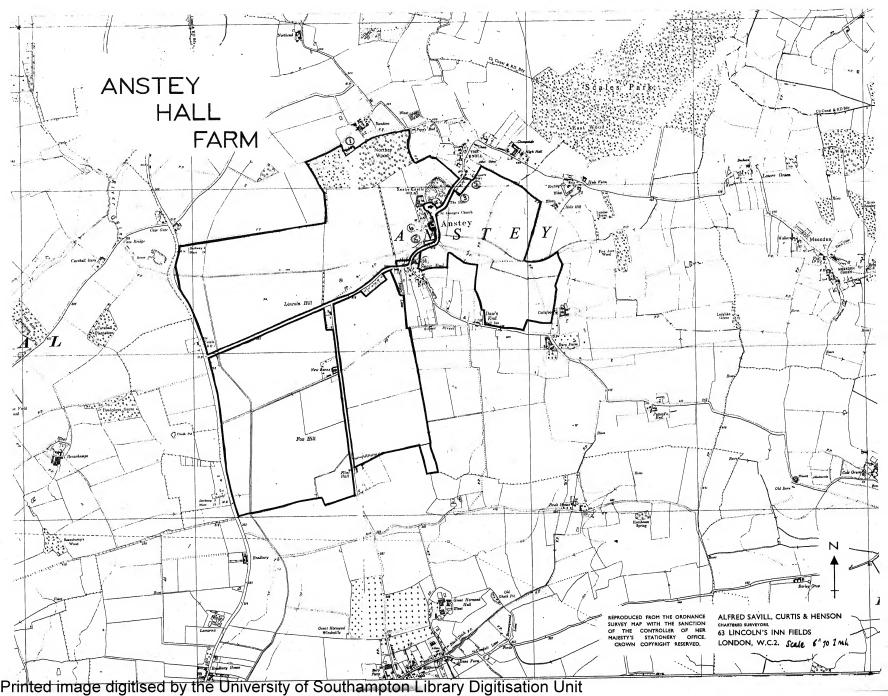


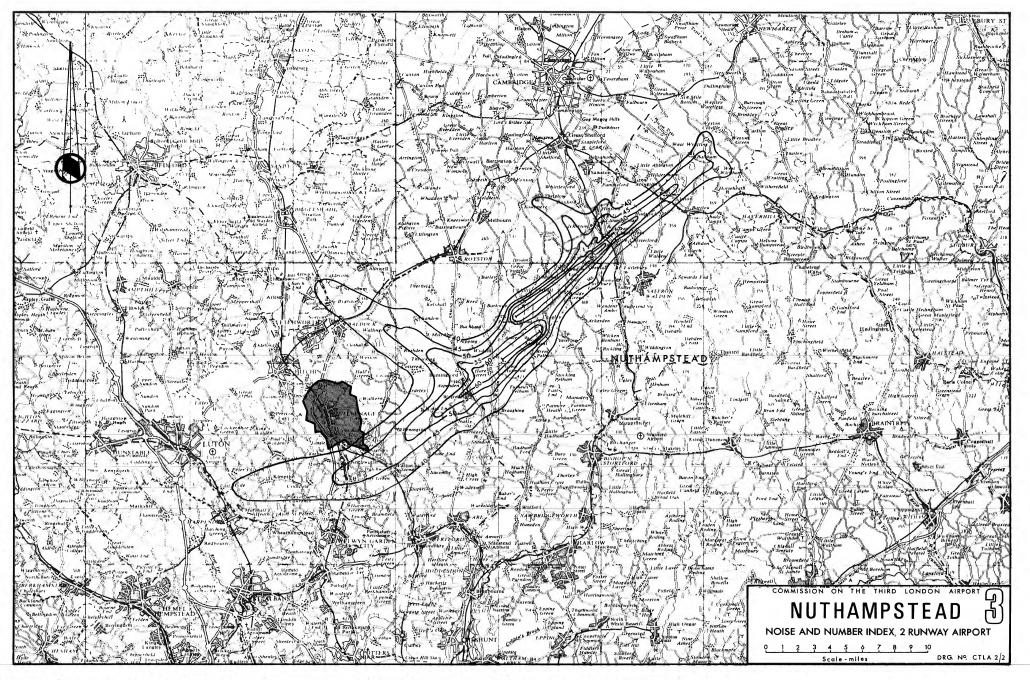
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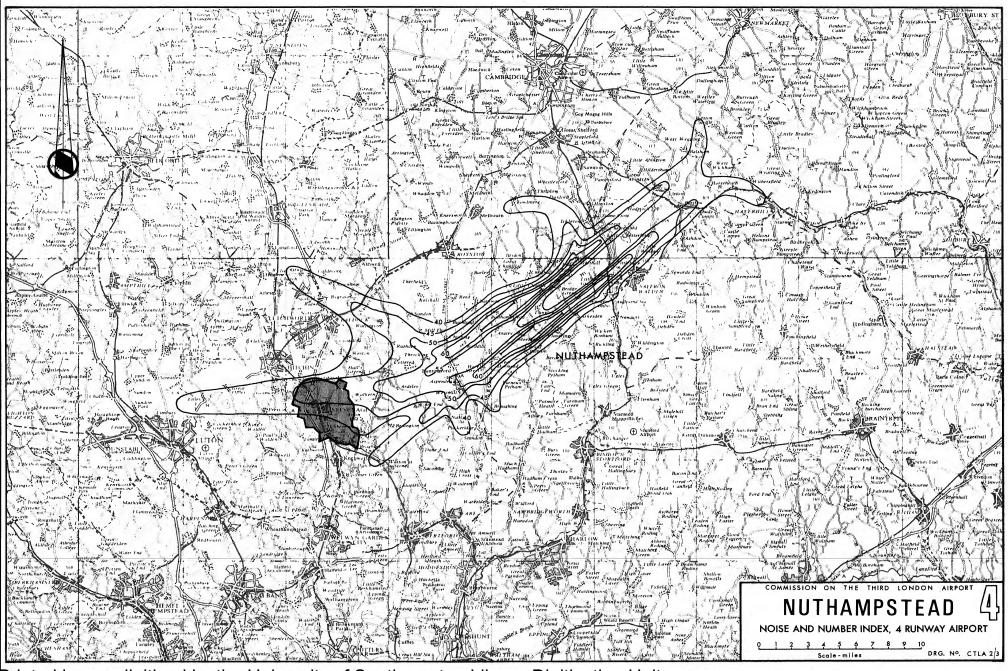




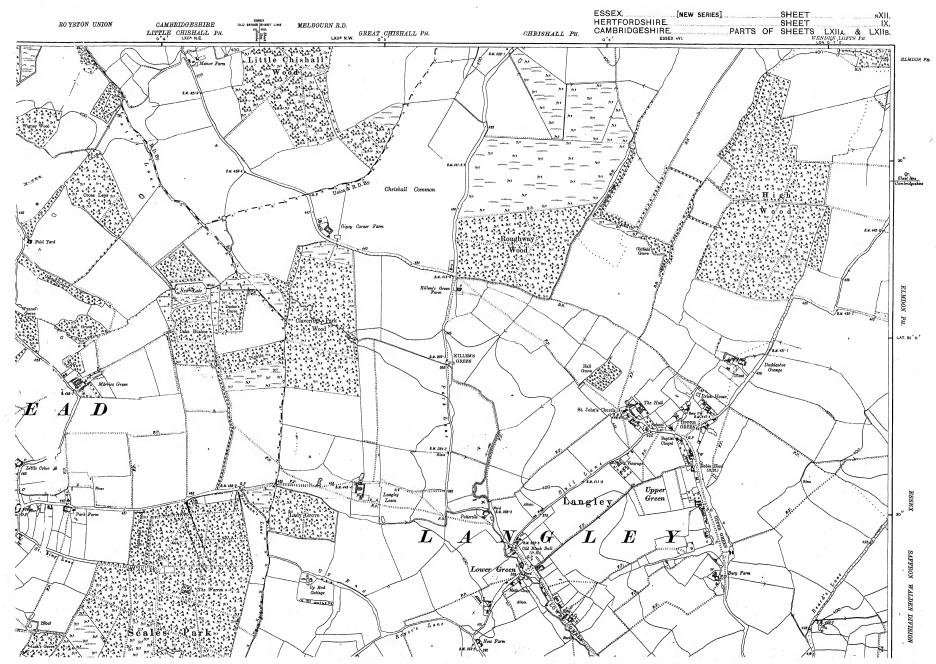




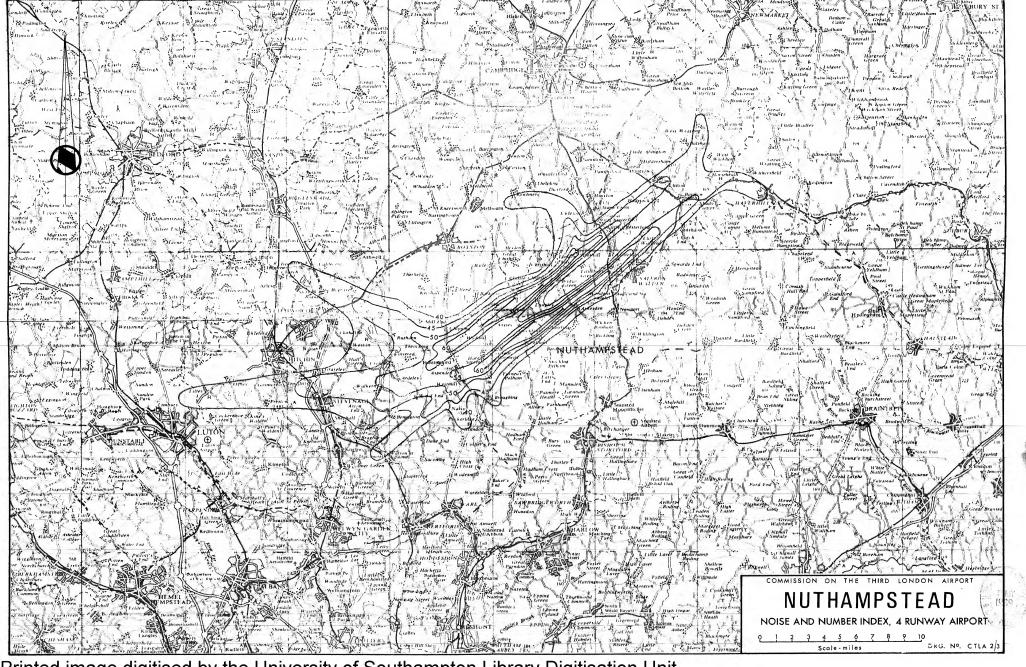
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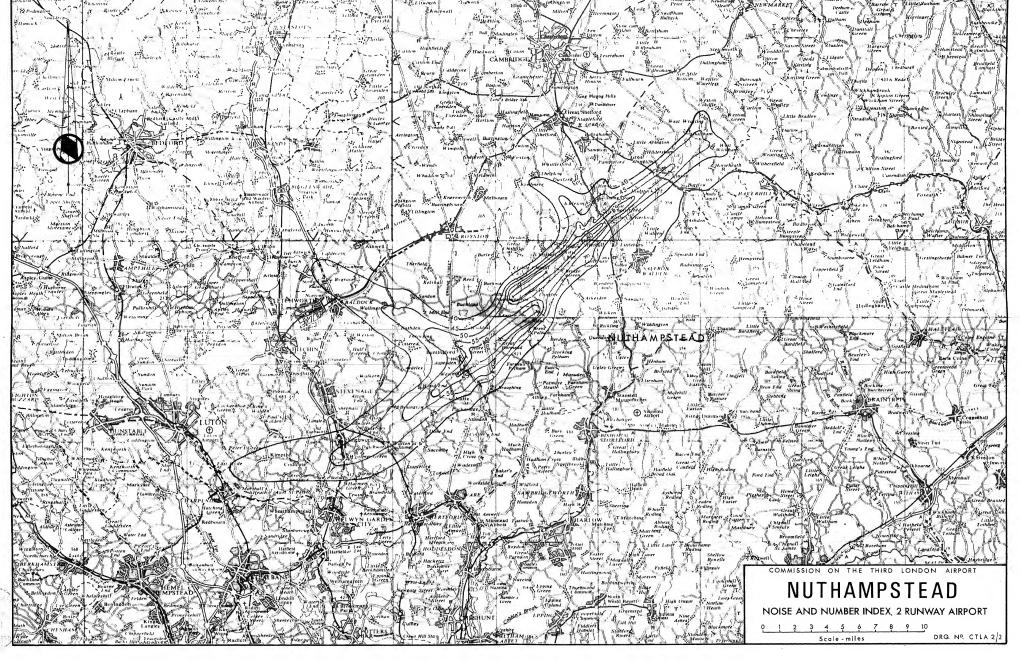
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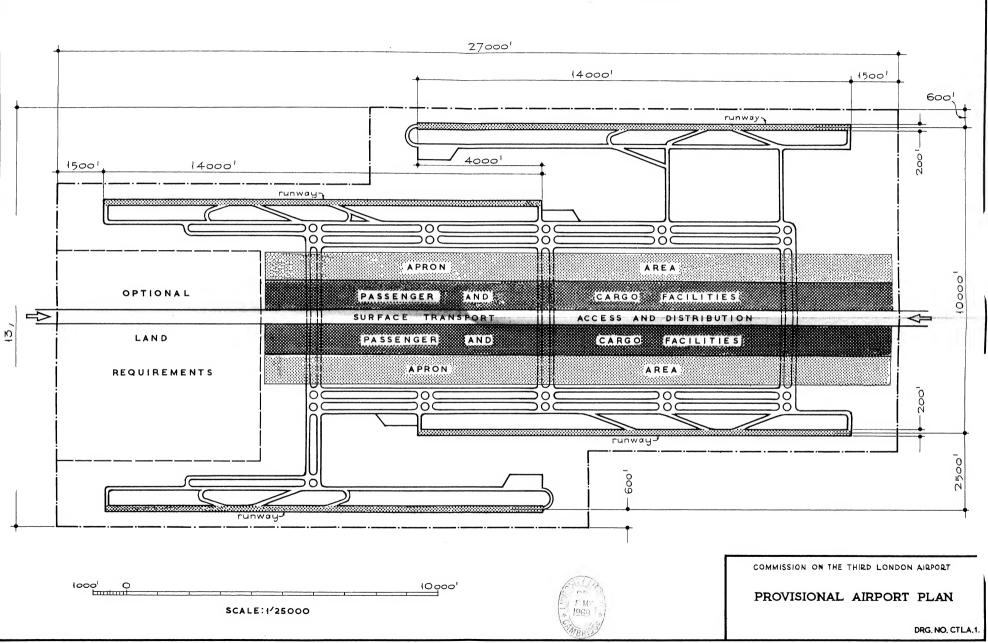
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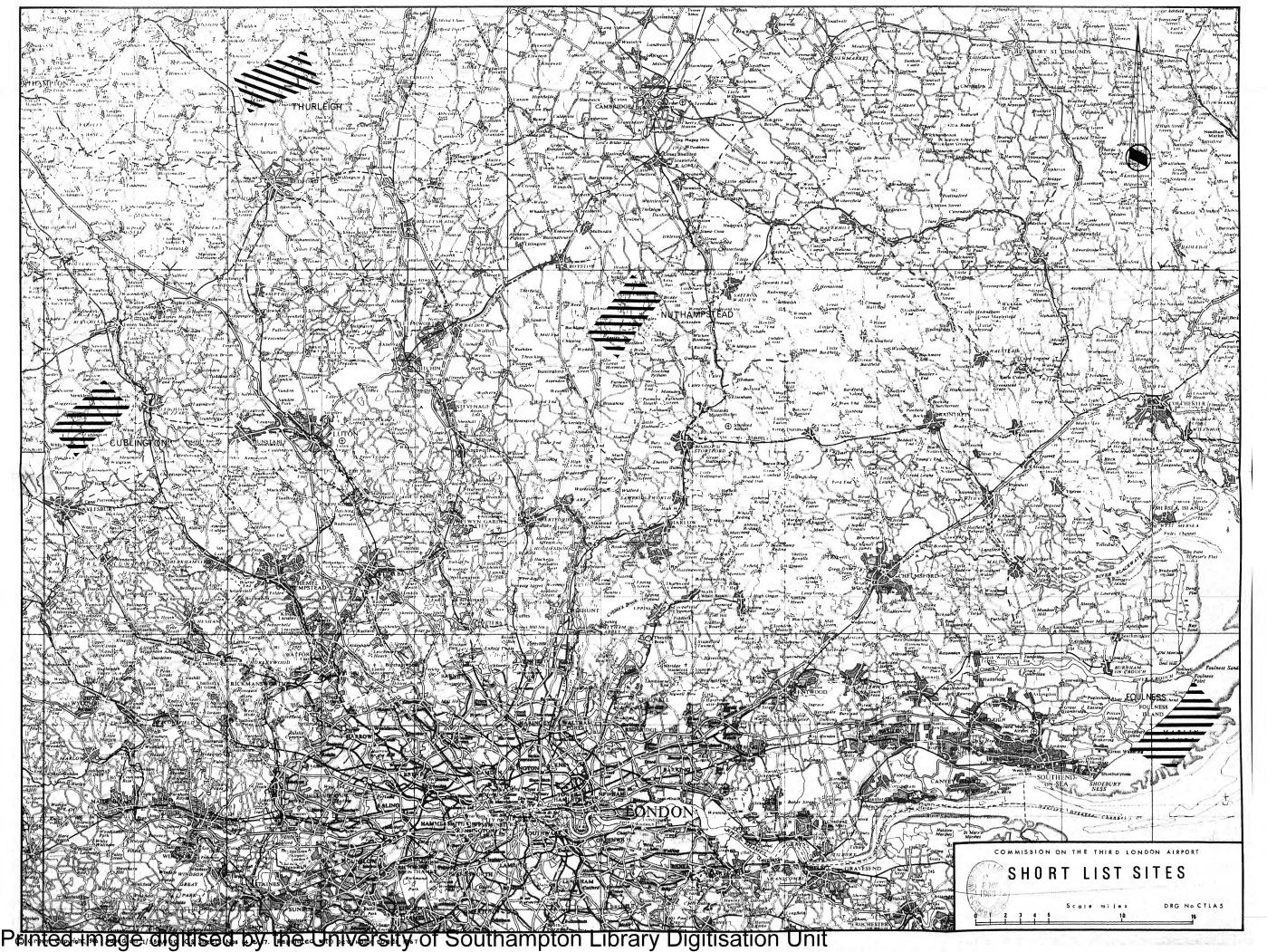
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## Site Information for Stage II Local Hearings

## 2. Nuthampstead

#### 1. Introduction

The information set out below is intended to give a broad indication of what would be involved if the third London airport were to be located at Nuthampstead. At this early stage of the Commission's work it is not possible to give final detailed plans for an airport at this site or for the surface access arrangements which would be required. The material under the various headings should, however, enable local implications of an airport at Nuthampstead to be assessed and should provide a suitable basis for objections, comments and representations at the Stage II local hearing.\*

- 2. As the Commission's work progresses and in the light of the evidence of the Stage II hearings, it will be possible to prepare more detailed plans. These will be available for the Stage V hearings.
- 3. The base maps used to illustrate this material are the latest published by the Ordnance Survey. They do not show the most recent developments.

#### 2. Airport Layout

- 4. The Commission recognises that there is no single airport layout which is the best possible for all the sites. Each site has to be carefully studied to establish factors, such as terrain and local geological conditions, so that the best layout at that particular site can be obtained. Detailed studies have not yet been carried out at Nuthampstead or any of the other short listed sites. Nevertheless, the Commission recognises the need for providing the public with some indication of the likely size and shape of a four-runway airport.
- 5. The layout shown at plan CTLA/I illustrates an arrangement which would be acceptable both to the National Air Traffic Control Services and to the British Airports Authority. An airport of this design could be constructed at Nuthampstead. It is emphasized that it is not the only possible configuration, but the basic runway separation distances which control the amount of land required are unlikely to be much less than is shown. The total land take of an airport at Nuthampstead with this layout would be approximately 7,500 acres (including the areas shown as "optional") but the possibility of a larger land take being required cannot be excluded.

## 3. Runway Alignment

6. The preferred runway alignment is 50 degrees east of north (grid). This is shown on the NNI (Noise and Number Index) contour plans CTLA/2/2 and CTLA/2/3. The alignment differs from that indicated by the shaded rectangle on plan CTLA/5 (Short List Sites). This preferred alignment provides a better balance of the following important factors: noise disturbance, existing

<sup>\*</sup>Appendix A for procedure and programme.

facilities and amenities, air traffic to other civil airports, air traffic patterns, military aviation, meteorological conditions and terrain. The Commission recognises that further changes to this preferred alignment may subsequently be justified.

#### 4. Airport Site

- 7. The area proposed embraces the old airfield at Nuthampstead. The terrain imposes practical limitations on the location of the site. It is bounded to the northwest and northeast by falling ground and to the southwest by the valley of the River Ouin.
  - 8. The site is currently used primarily for agriculture.
- 9. The area is predominantly boulder clay overlying the chalk bed rock. Construction should present no serious problems.

#### 5. Noise and Disturbance

- 10. On the basis of the Registrar General's Annual Estimates of Population for 1968, it is estimated that about 1,000 people currently reside in the area likely to be covered by the site.
- 11. Estimates have been made of the probable NNI\* contours for the airport at the full capacity of two runways and again at the full capacity of four runways.
- 12. Contours down to the 40 NNI level are shown on plans CTLA/2/2 and CTLA/2/3. Attention is drawn to the fact that these contours are of necessity approximate, and that they can give only a general indication of the areas likely to be affected. It is especially difficult to estimate the number of aircraft likely to be using particular flight paths in the four-runway case (some thirty years in the future) and the best way in which these flight paths can be routed to minimise the impact of noise on urban areas.
- 13. The reliability of the Noise and Number Index has been questioned. This is a matter which can be further investigated in due course. Separate night time NNI contours have not been prepared but, as the NNI is related to the number of aircraft movements and these are likely to be less at night than by day, it is a reasonable assumption at this stage that the night NNI contours will be less extensive than the day contours depicted. The contours relate to an average summer day normally the busiest time of the year with no special noise abatement procedures. It has been assumed in the NNI contours that noise certification regulations will be introduced and will lead to a reduction in the noise effect of aircraft by 10 NNI over the next 20 years.
- 14. The present population (based on the 1966 Census) affected by the different NNI contours are estimated to be:

Noise level					NNI	2-runway	4-runway
Intrusive					40-45	18,500	51,500
Intrusive/anno	ying				45-50	3,000	10,000
Annoying	•••				50+	4,500	4,500

<sup>\*</sup>See Noise: Final Report of the Committee on the Problem of Noise (Cmnd. 2056; HMSO; 19s. 6d.)

The Report of the Committee on the Problem of Noise reached the tentative conclusion that the critical range of disturbance was 50-60 NNI by day and 30-45 NNI by night.

15. The Commission is not publishing at this stage maps showing flight paths and stacking areas. Flight path maps will not give information about the levels of disturbance caused by aircraft in the vicinity of the airport. Such information is given by the NNI contour maps. It is not possible at this stage to indicate precisely where stacking areas might be located. However, they do not extend below 5,000 ft and the disturbance caused by aircraft held in stacks is most unlikely to reach the 40 NNI level.

## 6. Airport Employment

- 16. The introduction of a large international airport into an area is bound to create an inward movement of population. There will be those directly engaged on the airport ("primary employment"). There will be those engaged in manufacturing industry and commercial projects attracted specifically by the location of the airport ("secondary employment"). There will be those engaged in providing for the needs of the primary and secondary workers and their dependents ("service employment").
- 17. At this stage, the Commission's best estimate of the primary employment which the airport will generate at the full capacity of two runways is 45,000 and at the full capacity of four runways is 65,000. These figures depend on many factors, including the extent to which airlines will set up engineering facilities at the new airport. These levels of primary employment are unlikely to be reached before the mid-1980s and mid-1990s respectively. The accuracy of this forecast must depend on the date of inauguration of the airport and the subsequent build-up of traffic. The estimates are based on an analysis of employment and air traffic at Heathrow.
- 18. The Commission expects to receive valuable evidence on the issue of resulting urbanisation at the local hearing.

#### 7. Surface Access

- 19. The total annual number of passengers using the airport when two runways are running at full capacity is likely to be about 45 million. When four runways are running at full capacity it could be over 100 million. The forecasts are tentative and are put forward to give some indication of the scale of the surface access problem.
- 20. The Ministry of Transport and British Rail are not yet in a position to provide definite plans for this level of traffic but it is thought desirable to provide some indication of the possibilities for use at the local hearing. It is envisaged that new high standard dual carriageway links would be needed to M11 for London traffic and to A1 for Midlands and Northern traffic. At a later stage further links will be required. Rail facilities to a London terminal combining existing lines and new links will be needed from an early date.



#### APPENDIX A

## Arrangements for Stage II Hearing on Nuthampstead

#### Scope of Stage II Hearings

The main purpose of the Stage II hearings is to provide an opportunity for the Commission to be informed as early as possible of all the local implications which it should take into account in its further work on the short list sites. At the hearings the Commission will not be advancing proposals for an airport at the particular site in question but, on the assumption that an airport might be located there, will be asking for objections, comments and representations on the local consequences. The Stage II hearings are not intended to afford an opportunity for making comparisons between the site in question and other sites. Objections, comments and representations must, therefore, be confined to the site proposal in question. The opportunity for comparisons between the short listed sites will arise at Stage V.

2. The Stage II hearings are not ordinary planning inquiries. There will be nobody in the position of applicant for planning consent. Mr. A. J. Hunt, who is a Principal Planning Inspector and a member of the Commission, will preside. He will already be familiar with the main issues involved and will not be required to decide between any conflicting views put forward. It will be for the Commission as a whole to evaluate the evidence given after the Inspector has reported to it.

#### Procedure for the Stage II Hearings

- The Commission will publish material well in advance relating to each site.
   This material should be sufficient to enable those concerned to appreciate the local implications of what is proposed.
- 4. Interested parties must apply to the Commission in writing for leave to be heard or represented at the hearings. All applications must be accompanied by a brief statement of the nature of the evidence which it is desired to give. Written applications will so far as possible be dealt with by the Commission without oral hearings but if the Commission requires any applicant to present his application orally he will be asked to attend a meeting for the purpose. Those given leave will later be invited to attend a private meeting to discuss what are the main issues to be covered and how the proceedings should best be conducted.
- 5. The Commission intends to ensure that the best use is made of the time available for the local hearings. Those given leave to appear or be represented must produce their statements, proofs and all other relevant documents well in advance of the hearing so that they can be made available to other interested parties before the hearing begins. This will largely avoid the need for examination in chief. The Commission asks that representative organisations or groups will, so far as possible, put forward a common view so that repetition of similar views and unnecessary cross-examination can be avoided.
- 6. In general the Inspector will have complete discretion and control over the proceedings. He will be entitled to withhold permission to call any witness whose evidence appears likely to be irrelevant or repetitive. There will be no appearance at the hearings on behalf of the Commission but any party given leave to appear or be represented may at the Inspector's discretion be allowed to cross-examine any witness called to the extent that such cross-examination is relevant to the issues before him.
- 7. The Inspector will before the hearing circulate to all concerned a programme of appearances and so far as possible agree this with them.
- The hearings will be in public. A complete shorthand note will be taken. Copies
  of the transcript will be available for purchase from the shorthand writers, Messrs.
  Cherer & Co., 34, Essex Street, Strand, London WC2.

The Inspector will also have regard to any relevant written objections, comments and representations on the local consequences submitted by those not seeking leave to appear or be represented at the hearing. Such written submissions should reach the Secretary not later than Friday, 23rd May 1969.

### Time Table for the Stage II Hearing on Nuthampstead

10. The following time table shows the proposed timing of the various phases of the procedure for the local hearing on Nuthampstead.

#### Nuthampstead

(a)	Commission material published	1 April
(b)	Applications for leave to appear or be represented by	18 April
(c)	Date of hearing of applications (if required)	25 April
(d)	Meeting to discuss procedure	28 April
(e)	Statements, proofs and other documents (including	
(-)	written submissions) to be received not later than	23 May
(f)	Start of hearing	9 June

#### Applications

11. The Commission is now ready to receive applications for leave to appear or be represented at the hearing on Nuthampstead. These should reach the Secretary at Templar House, 81-87 High Holborn, London WCI not later than Friday, 18th April 1969. The hearing will start at 10 a.m. on Monday, 9th June 1969 at a place to be announced.

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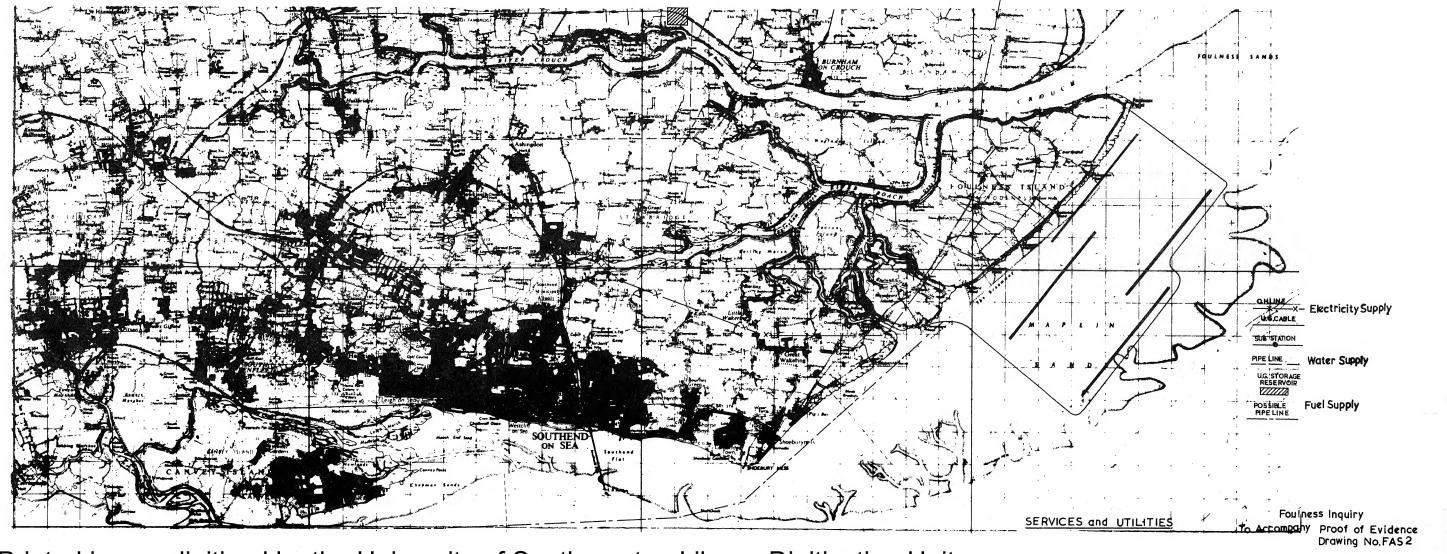
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# Site Information for Stage II Local Hearings

2. Nuthampstead

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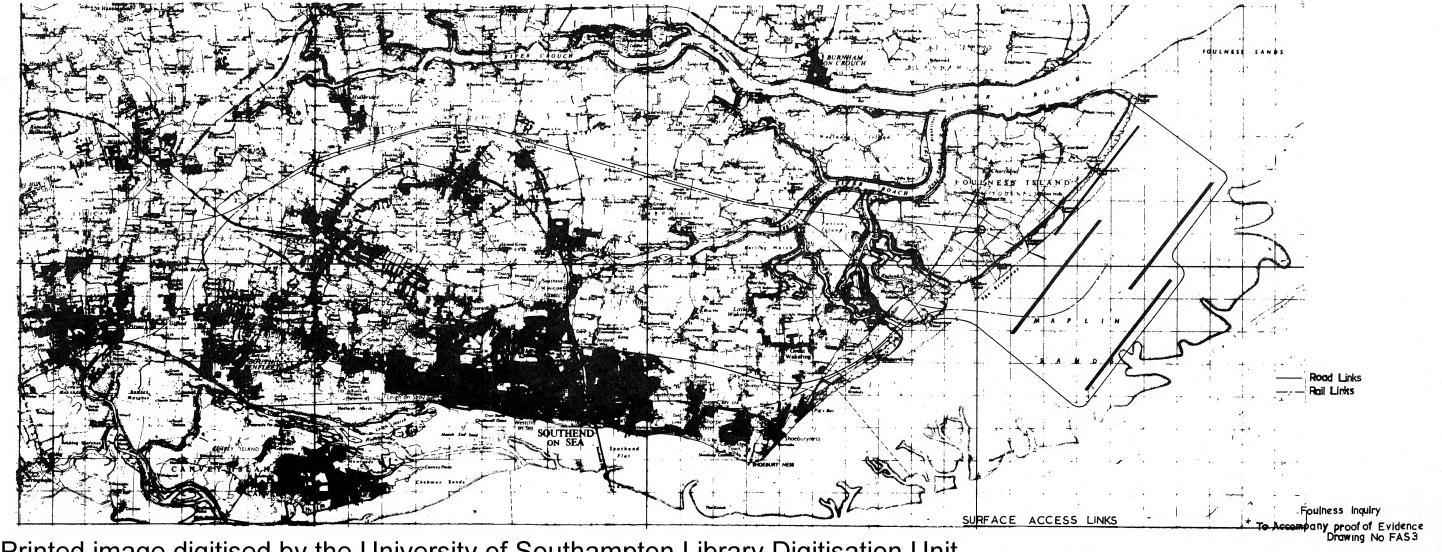


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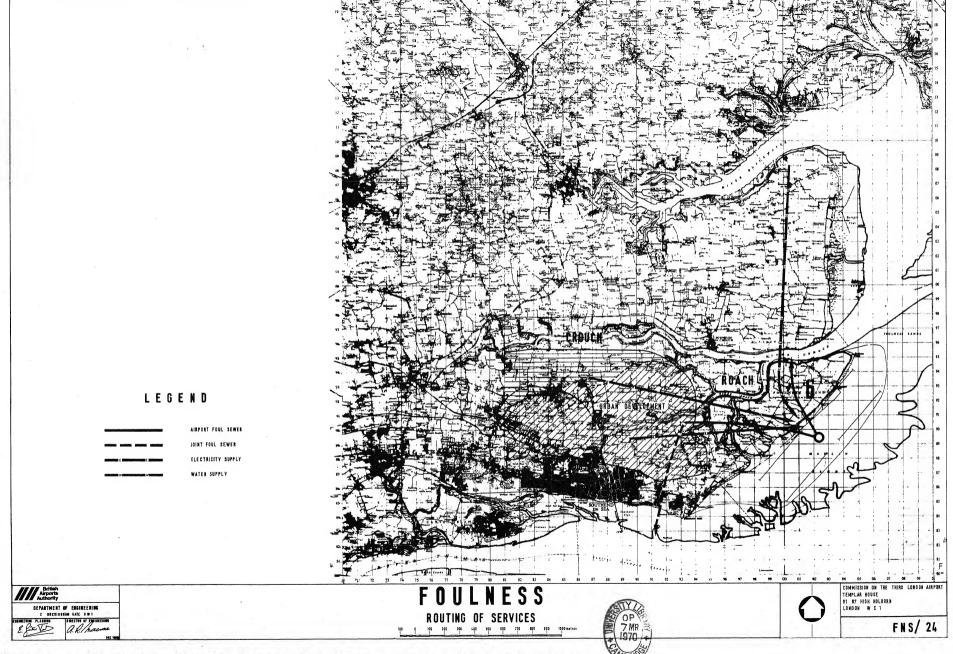


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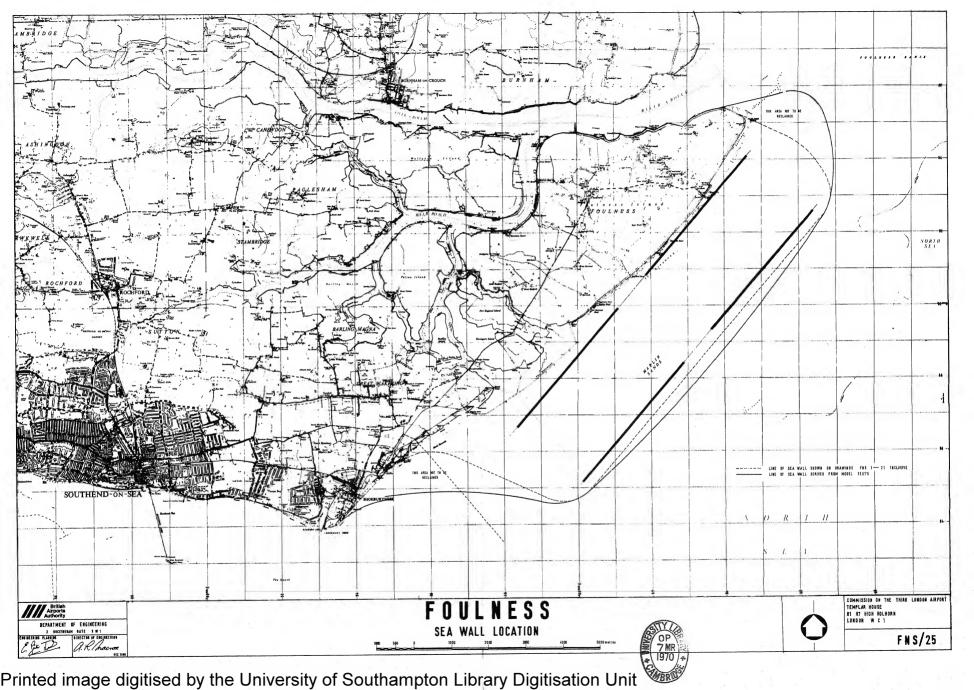
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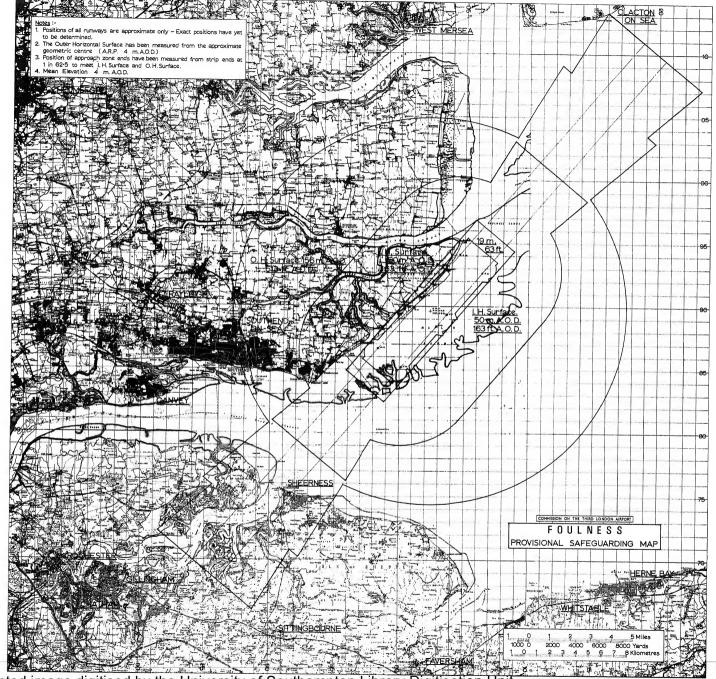


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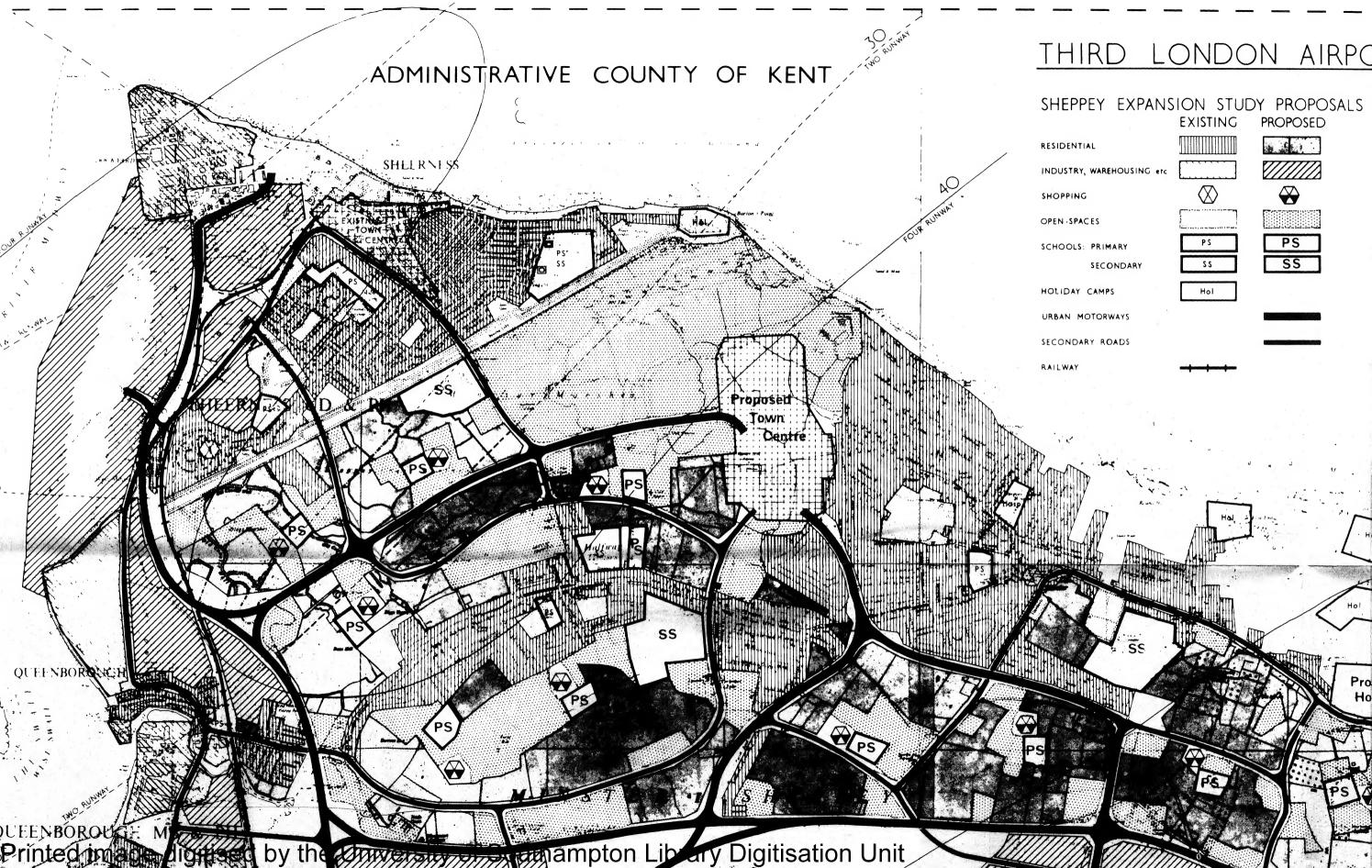
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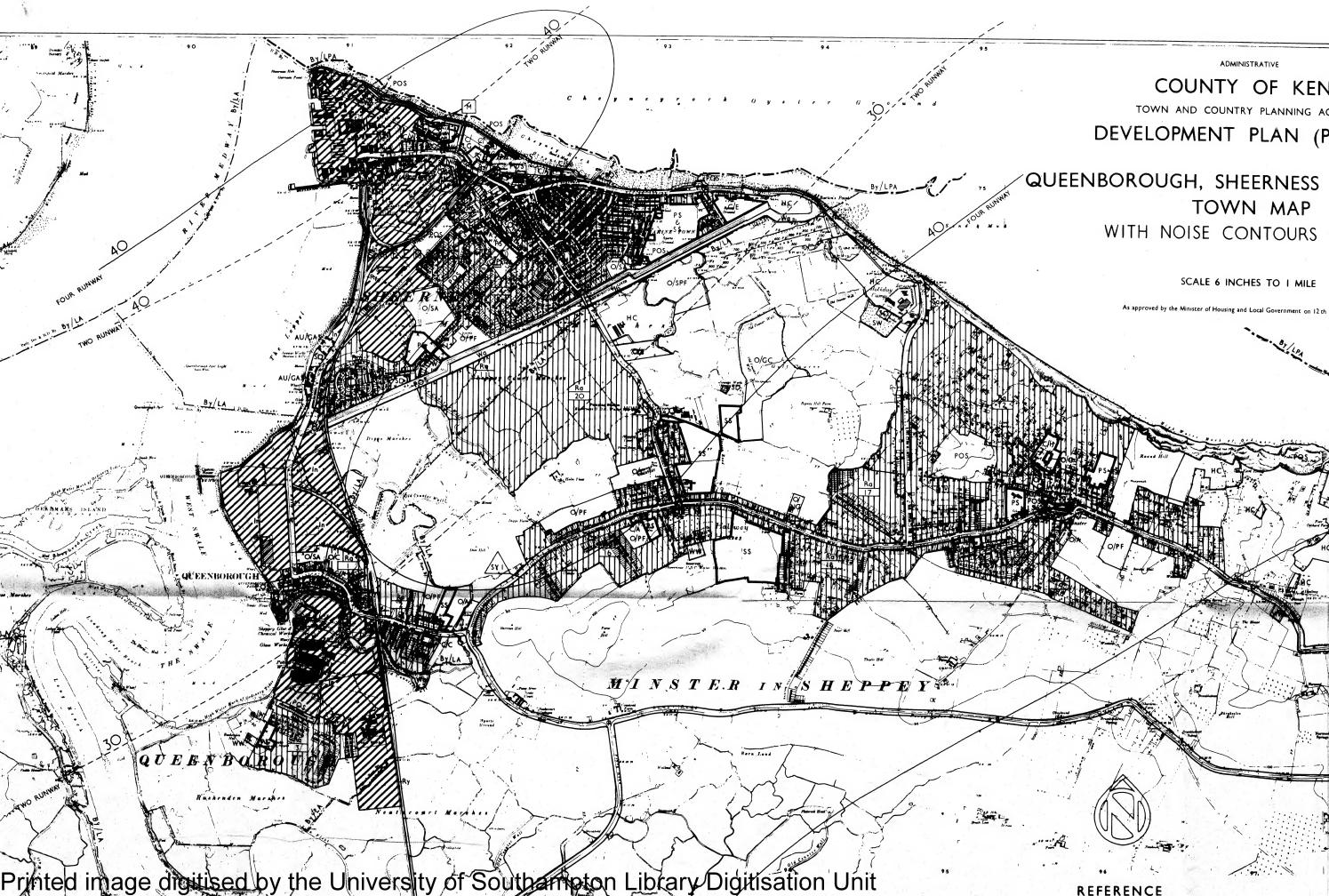


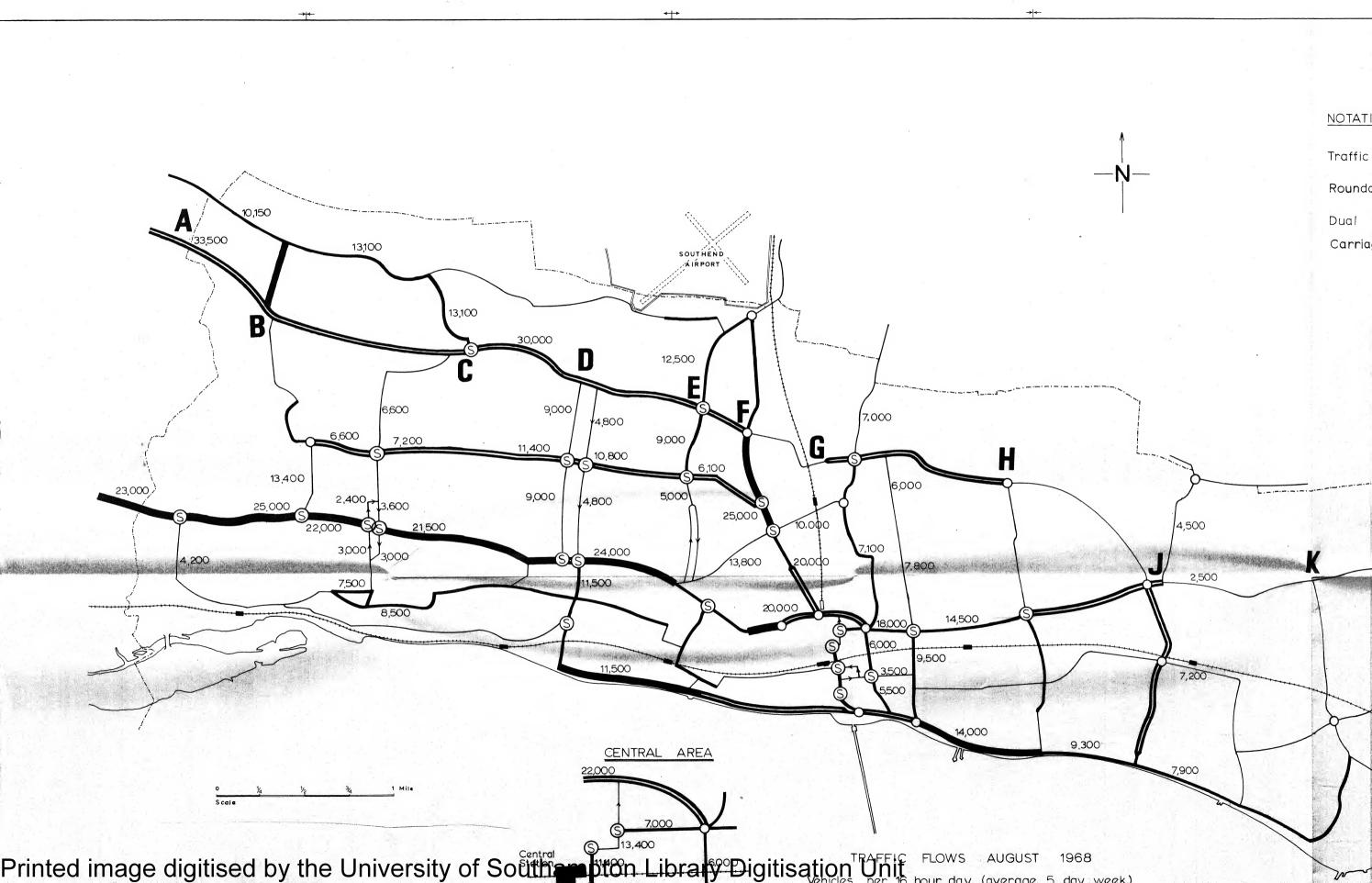


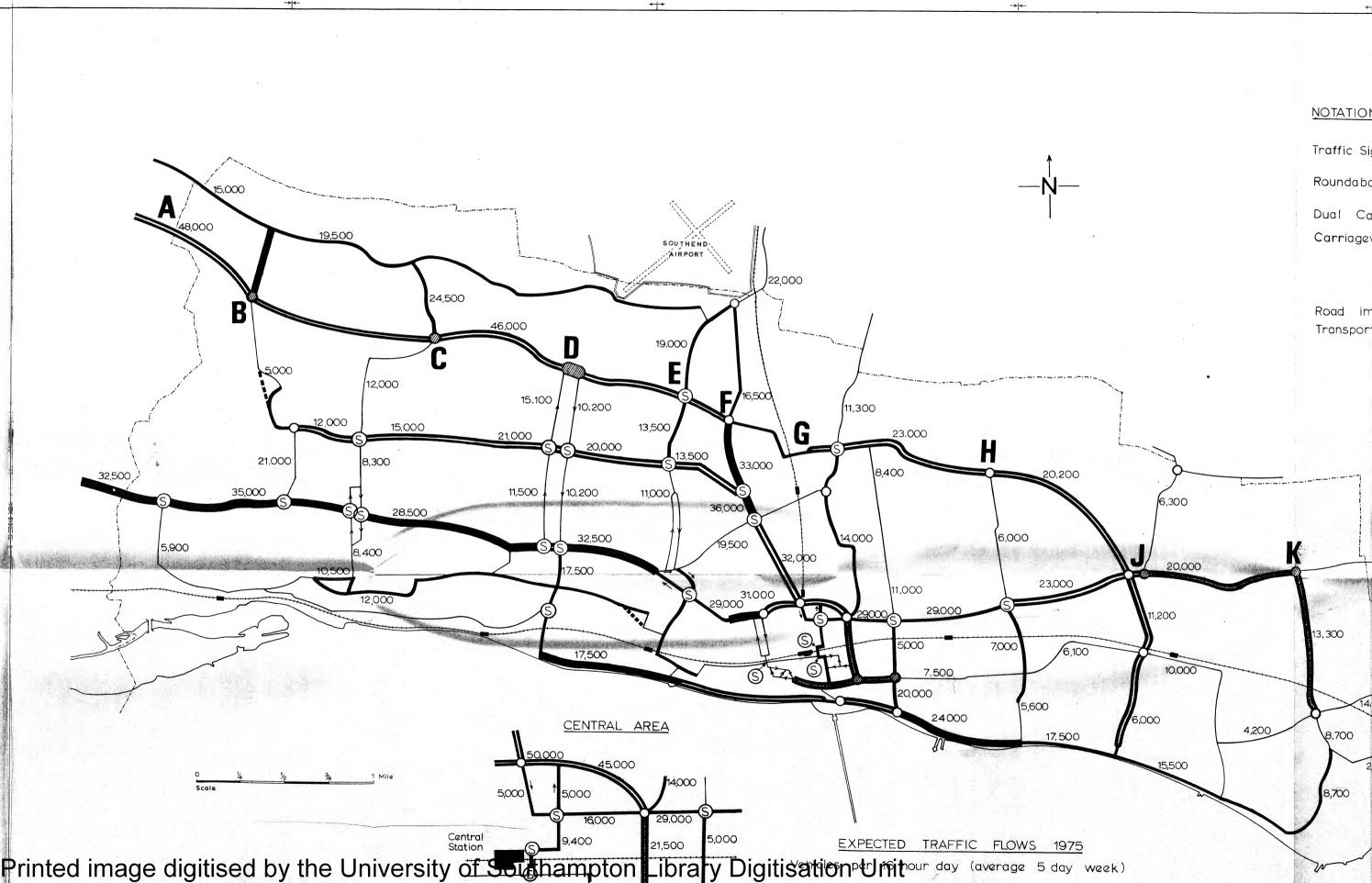
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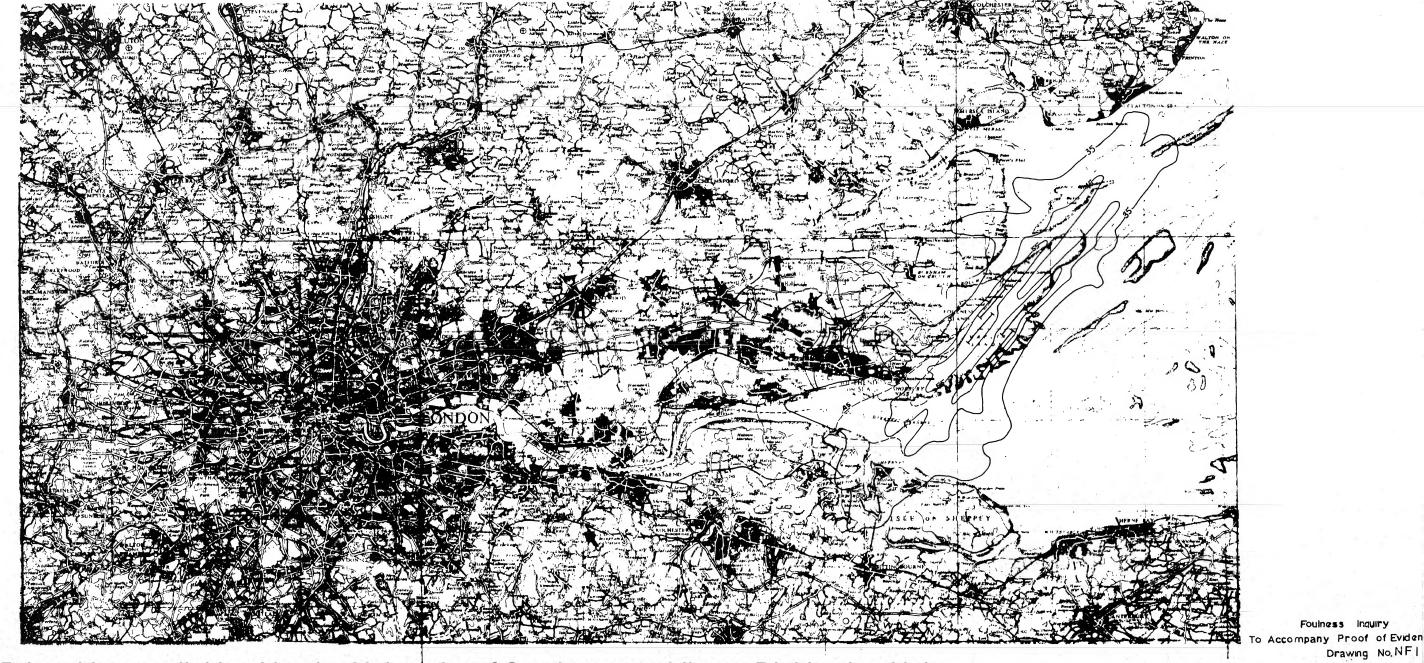




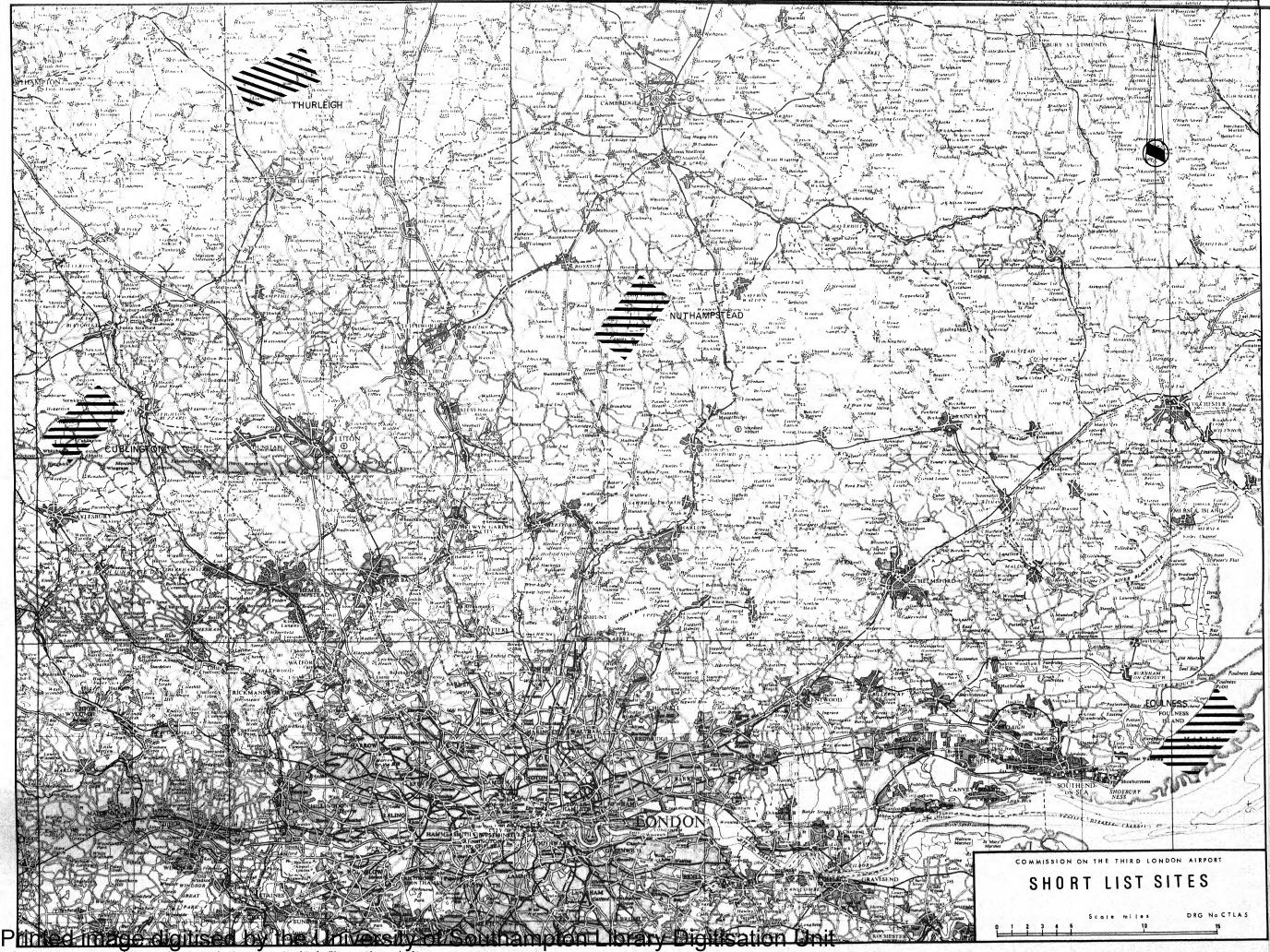


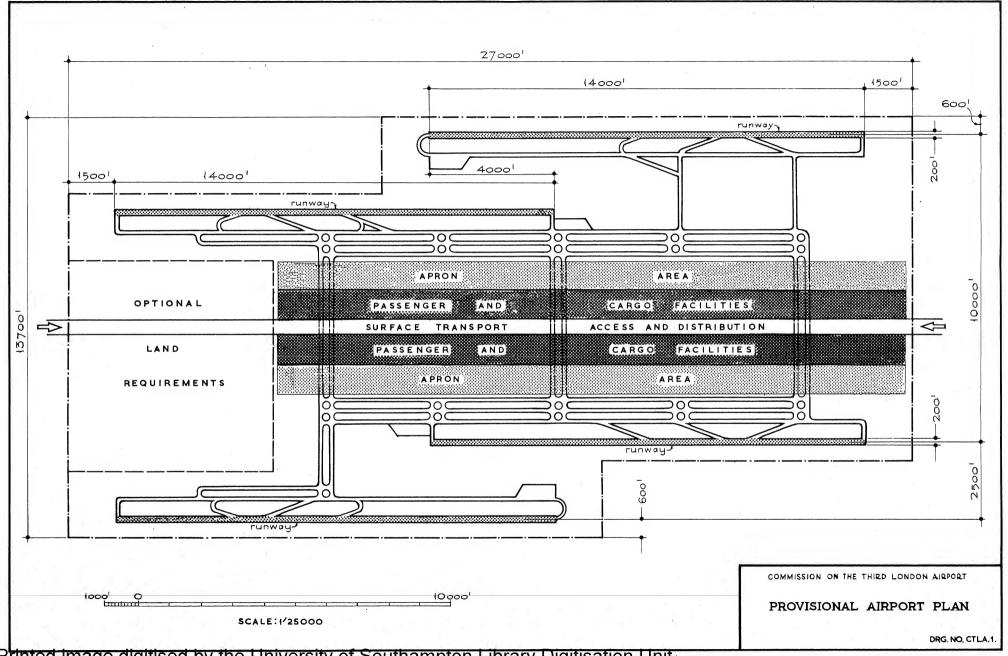




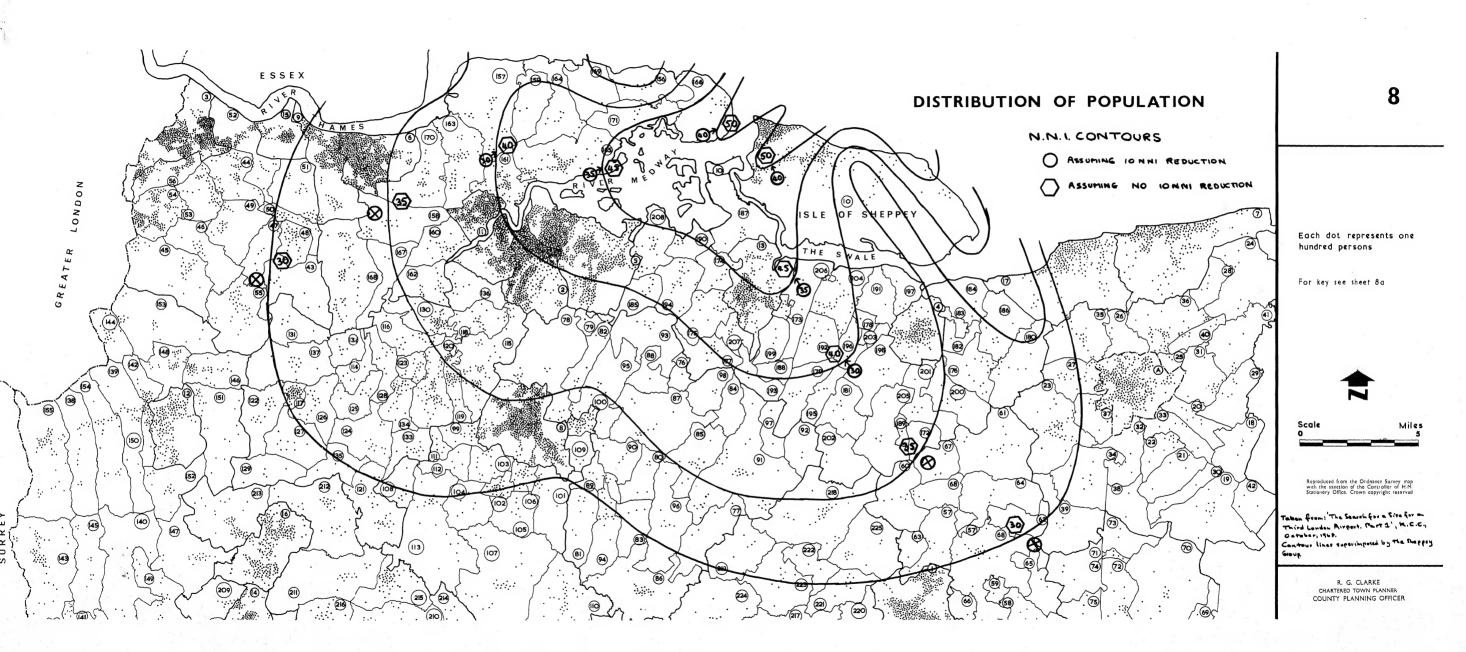


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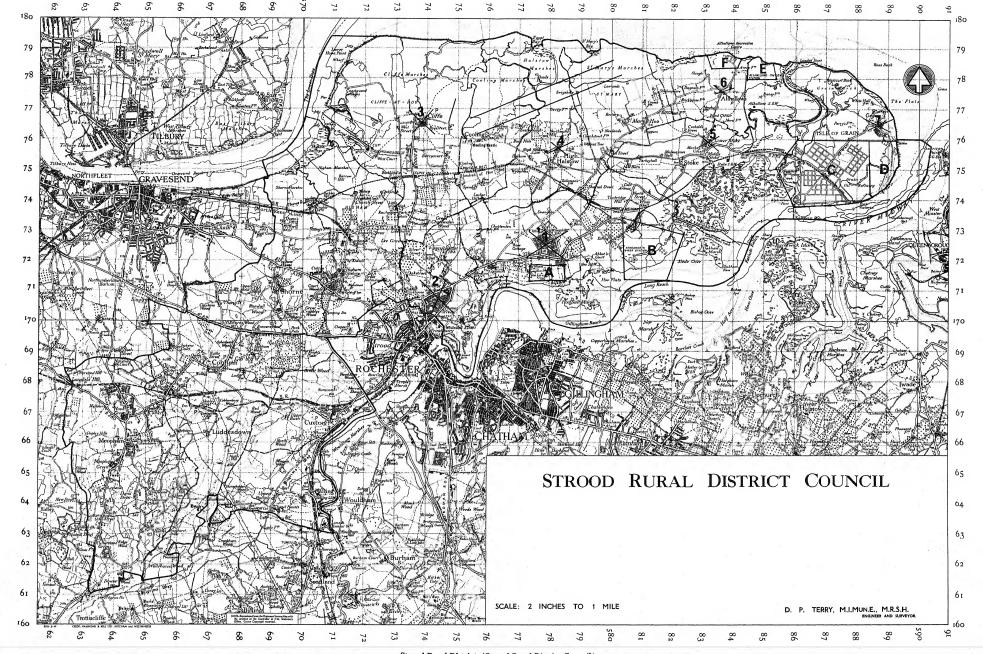




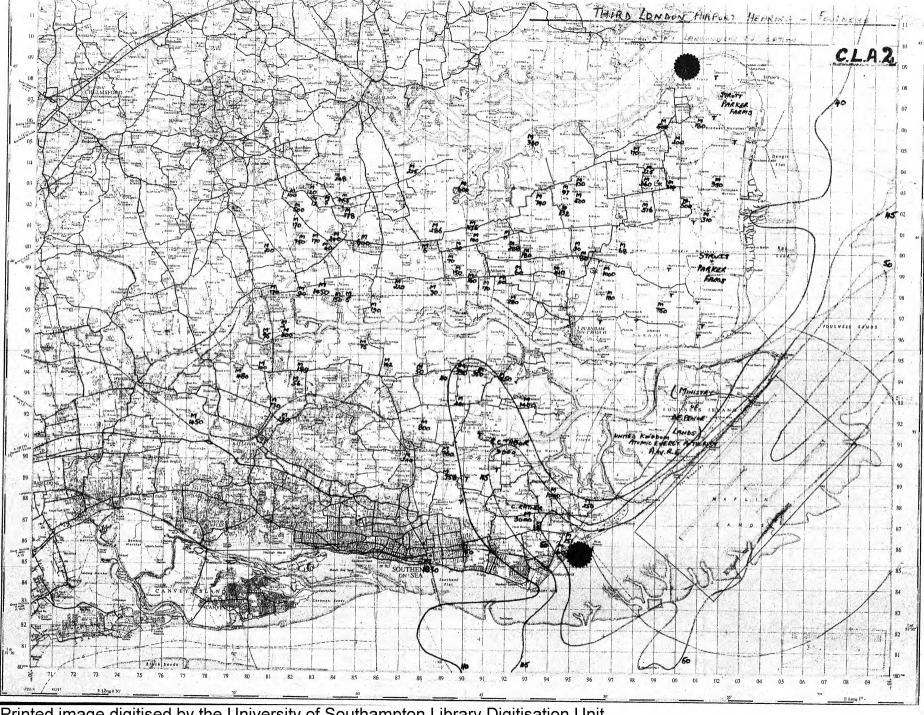
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Key to map MB 1 Distribution of Population 1966 Census—Total Persons									
Distri		Persons			Persons	District	Persons		
A Can	terbury CB	31,250		gbourne RD Bicknor	50	Strood RD 156 Allhallows	610		
1	Ashford UD	31,240	77	Boughton Malherbe	400	157 Cliff	2,160 1,610		
2	Chatham MB Dartford MB	52,980 46,400 13,750	78	Boxley Bredhurst	1,690 140	158 Cobham 159 Cooling	170		
4	Faversham MB	13,750	80	Broomfield	540	160 Cuxton	2,240 5,590		
5	Gillingham MB Gravesend MB	78,060 55,200	81	Chart Sutton	750 840	161 Frindsbury Extra 162 Halling	2,010		
4 5 6 7 8		55,200 24,350	83	Detling East Sutton	330	163 Higham	3,820 1,010		
8 9	Maidstone MB Northfleet UD	64,660 24,610	84 85	Frinsted Harrietsham	140	164 High Halstow 165 Hoo	6,910		
10			86	Headcorn	1,340 2,470	166 Isle of Grain	1,240 180		
11 12	Rochester MB Sevenoaks UD	16,900	87 88	Hollingbourne Hucking	1,060	167 Luddesdown 168 Meopham	5,660		
13	Sittingbourne and	Milton UD 26,450	89	Langley	1,020	169 St. Mary Hoo	130 2,450		
14 15	Swanscombe UD	Sheppey MB 29,800 53,450 16,900 Milton UD 26,450 9,200 8,980 27,690 21,950	90 91	Leeds Lenham	520 3,570	170 Shorne 171 Stoke	590		
16	Tonbridge UD Whitstable UD	27,690	92	Otterden	150 620		36,380		
17	Whitstable UD	21,930	93 94	Stockbury Sutton Valence	1,470	Swale RD			
Bridg	e-Blean RD	400	95	Thurnham	890	172 Badlesmere	120		
18 19	Adisham Barham	400 1,200	96 97	Ulcombe Wichling	650 150	173 Bapchild 174 Bobbing	620 700		
20	Bekesbourne	560 320	97 98	Wormshill	270	175 Borden	1,630		
20 21 22	Bishopsbourne Bridge	1,180			19,140	175 Borden 176 Boughton-under-Blean 177 Bredgar	750		
23 24 25	Chartham	4,090 710	Maids	tone RD	4.000	178 Buckland	70 460		
24 25	Chislet Fordwich	220	99 100	Barming Bearsted	1,260 3,970 1,270	179 Doddington 180 Dunkirk	730		
26 27	Hackington	290		Boughton Monchelsca	1,270	181 Eastling	510		
28 29	Harbledown Hoath	2,230 350		Coxheath East Farleigh	3,040 1,290	182 Faversham Without 183 Goodnestone	140 30		
29	Ickham and Well	550 220	104	Hunton	1,290 560	184 Gravency	280 670		
30 31	Kingston Littlebourne	1,170	105 106	Linton Loose	560 2,110	185 Hartlip 186 Hernhill	660		
32	Lower Hardres Patrixbourne	500 570	107	Marden	2,110 2,700 690	187 Iwade	690 20		
33 34	Petham	720		Nettlestead Otham	260	189 Leaveland	100		
35	St. Cosmus and St. Damian in the	Blean 580	110	Staplehurst	3,260 620	190 Lower Halstow	470 70 910		
36	Sturry	4,530	111 112	Teston West Farleigh	410	192 Lynsted	910		
37 38	Thanington Without Upper Hardres	out 770 210	113	Yalding	2,340	193 Milstead 194 Newington	150 1,930		
39	Waltham	320			24,340	195 Newham	300		
40 41	Westbere Wickhambreaux	740 550	Malli	ng RD		196 Norton 197 Oare	160 440		
42	Womenswold	270	114	Addington	630 6,250	198 Ospringe	430 270		
		24,250	115 116	Aylesford Birling	1.650	199 Rodmersham 200 Selling	550		
_			117	Birling Borough Green Burham Ditton	3,580 2,060	201 Sheldwich	460 180		
Dart 43	ford RD Ash-Cum-Ridley	960	118 119	Ditton		202 Stalisfield 203 Stone	10		
44	Darenth	5,920 3,290	120	Ditton East Malling and Larkfield East Peckham	7,380 2,630	204 Teynham	2,880 380		
45 46	Eynsford Farningham			Ightham	2,630 1,570 1,990	205 Throwley 206 Tonge	260		
47 48	Fawkham Hartley	555 3,04( 2,19( 2,13( 1,99) 8,399	123	Leybourne Mereworth	1,310	207 Tunstall	750 1,890		
49	Horton Kirby	2,190	124 125	Offham	680	208 Upchurch	22,030		
50 51	Longfield Southfleet	2,130 1,990	126	Platt Plaxtol	1,410 890				
52	Stone	8,39	128	Ryarsh	880 480		980		
53 54	Sutton-at-Hone Swanley	3,570 15,210 3,750 7,74	130	Shipbourne Snodland	4,680	210 Brenchley (pt.)	1,500		
55	West Kingsdown	3,75	131	Stansted	4,680 470 570 1,240 2,780	210 Brenchley (pt.) 211 Capel 212 Hadlow	1,546 2,840		
56	Wilmington	60,030	133	Trottiscliffe Wateringbury	1,240	213 Hildenborough	5,200		
		00,000	- 134	West Malling West Peckham	2,780 250	214 Horsmonden (pt.) 215 Paddock Wood 216 Pembury (pt)	600 4,600		
East	Ashford RD (pt.) Boughton Aluph		135 136	Wouldham	250 790	216 Pembury (pt)	2,000		
57 58	Boughton Aluph Brabourne (pt.)	550 50	137	Wrotham	1,320 49,580		19,260		
59	Brook	150	)		49,380	West Ashford RD (pt.)			
60 61	Challock Chilham	48 1,27	Seve	noaks RD	1 450	OLD Dathondon (nt)	300 2,640		
62	Crundale	18	130	Brasted Chevening	1,450 2,460 850	218 Charing 219 Egerton	530		
63 64	Eastwell Godmersham	17 27	140 141	Chiddingstone Cowden	850 880	219 Egerton 220 Great Chart 221 Hothfield	950 880		
65	Hastingleigh	16	142	Dunton Green	880 1,770		300		
66 67	Hinxhill Molash	5 25	0 114	Edenbridge Halstead	5,620 1,760	223 Pluckley	1,030		
68	Wye	2,15	145	Hever	1,050	225 Westwell	870		
		6,18	0 146 - 147	Kemsing Leigh	4,210 1,900		8,490		
Elle	nm PD (nt )		148	Otford	3,440 1,670	(As the 1966 census was	not a complete		
69	am RD (pt.) Acrise	3 13	0 149 0 150	Penshurst	1,670 2.100	enumeration, the figures	are subject to		
70	Elham Elmstead	1,34	ŏ 151	Seal	2,100 2,520 1,400	sampling errors.)			
71 72	Lyminge (pt.)	5 MR 124,60	0 152	Sevenoaks Weald	1,400 1,760	Each dot represents one hi	indred persons		
73 74		1970 * 21	0 154	Sundridge	2,300		for a Site for a		
75	Stowting	S 28	0 155	Westerham	4,480 41,620	Inira London Airport.	Part 1. October,		
		4,26	<u>U</u>		71,020	2 1968. Kent County Counc	41.		